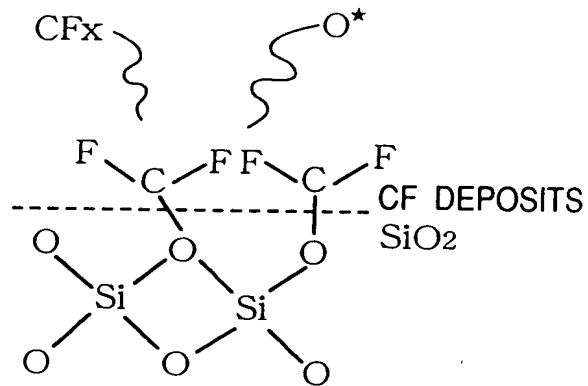


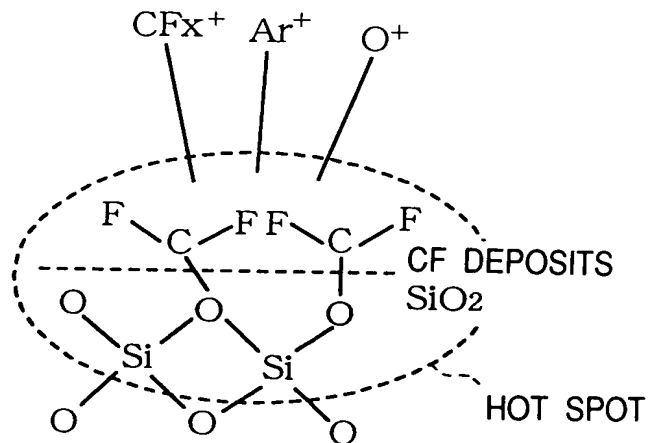
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FIG. 1

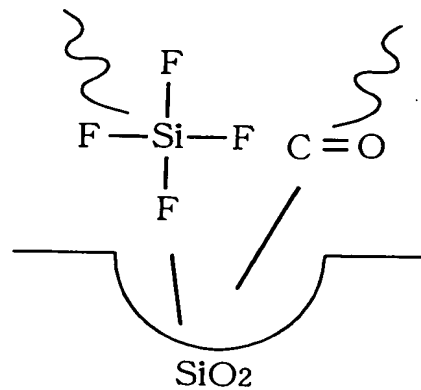
(a)



(b)



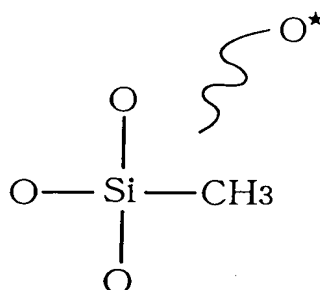
(c)



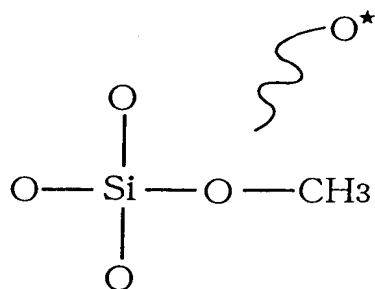
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FIG. 2

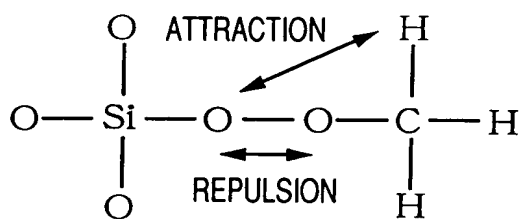
(a)



(b)

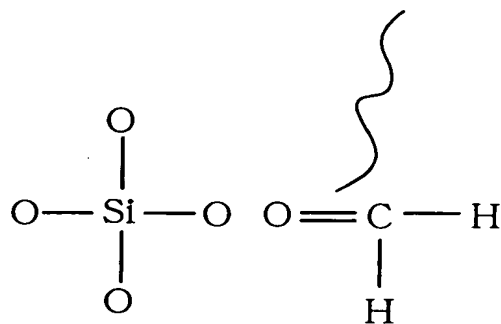


(c)



METASTABLE STRUCTURE

(d)



DECOMPO- → VAPOR-  
SITION IZATION

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FIG. 3

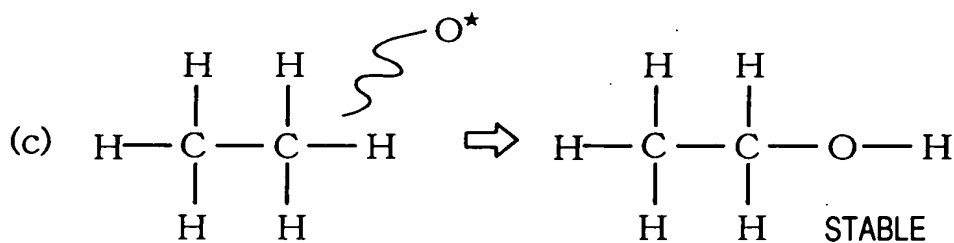
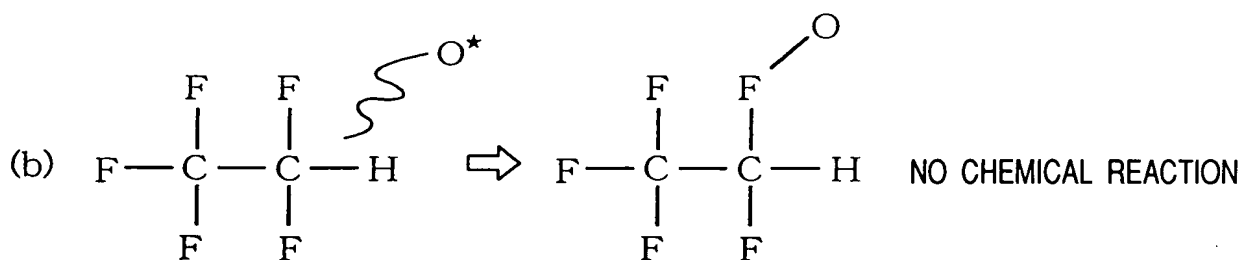
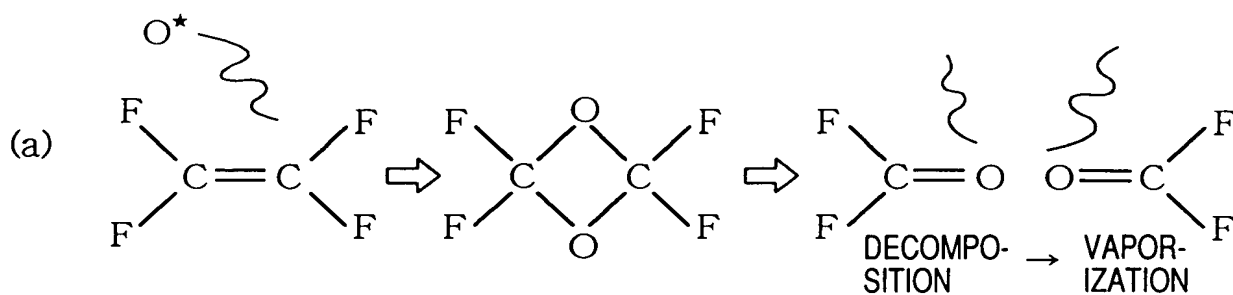
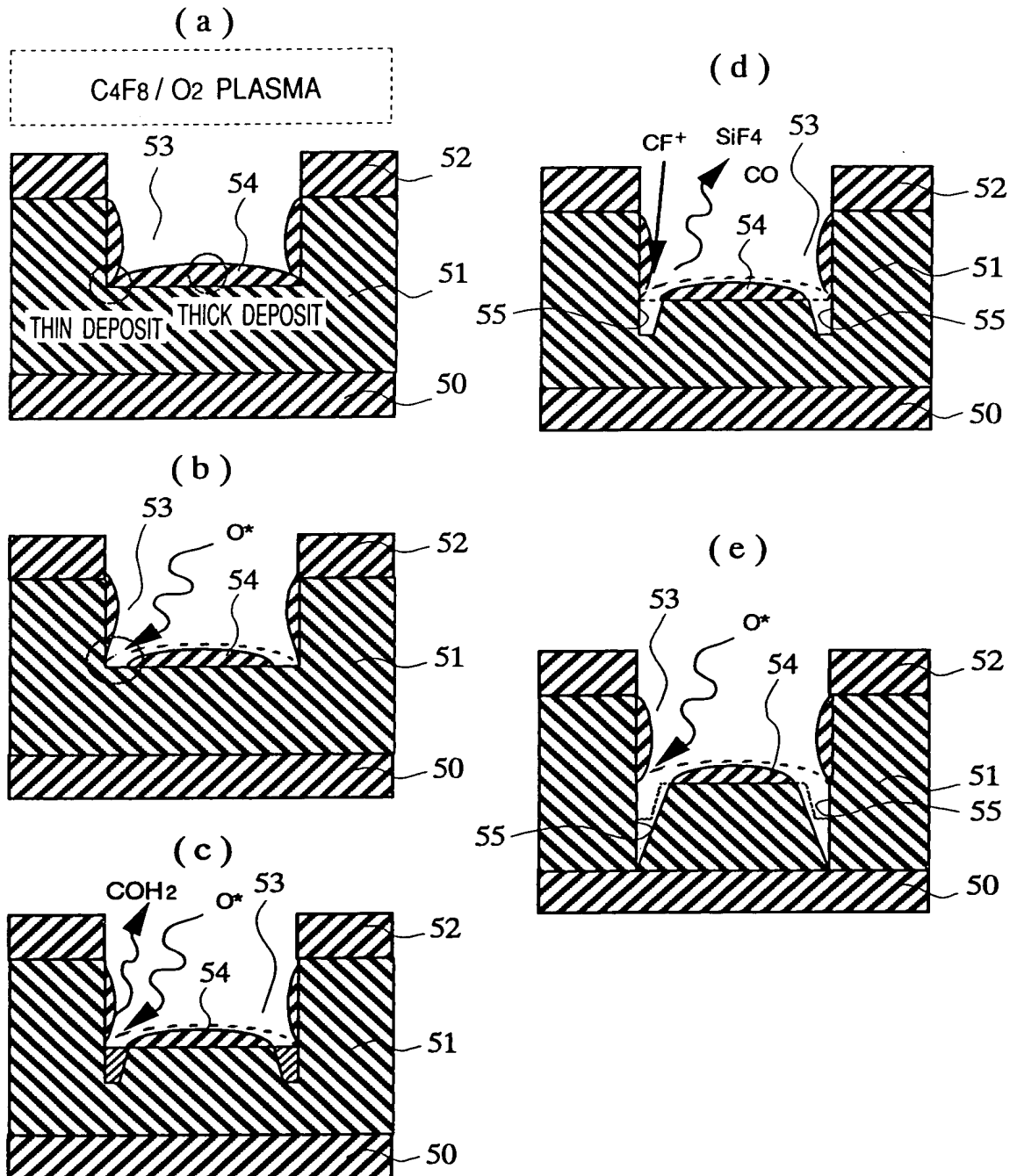
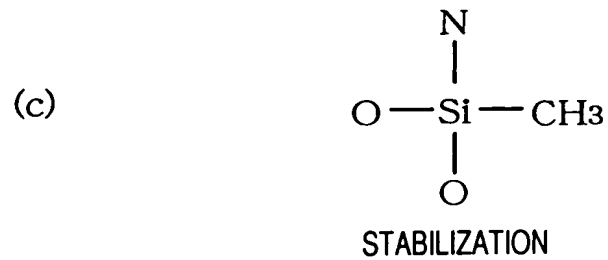
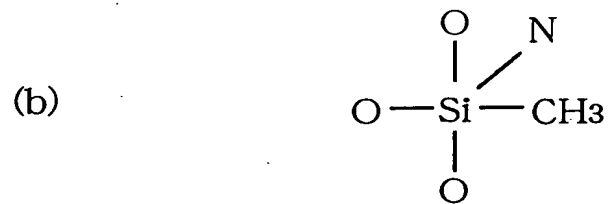


FIG. 4





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FIG. 6

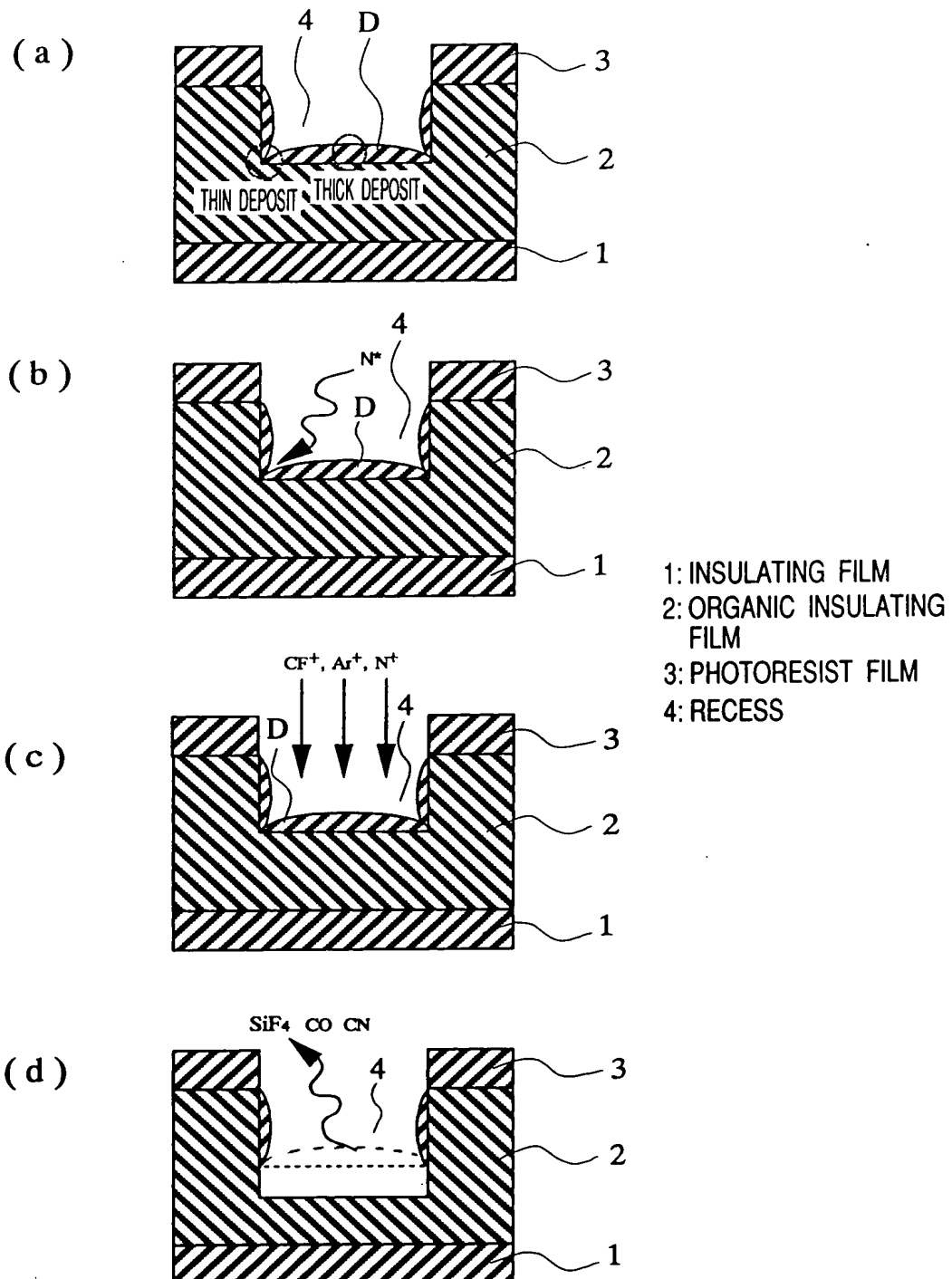


FIG. 7

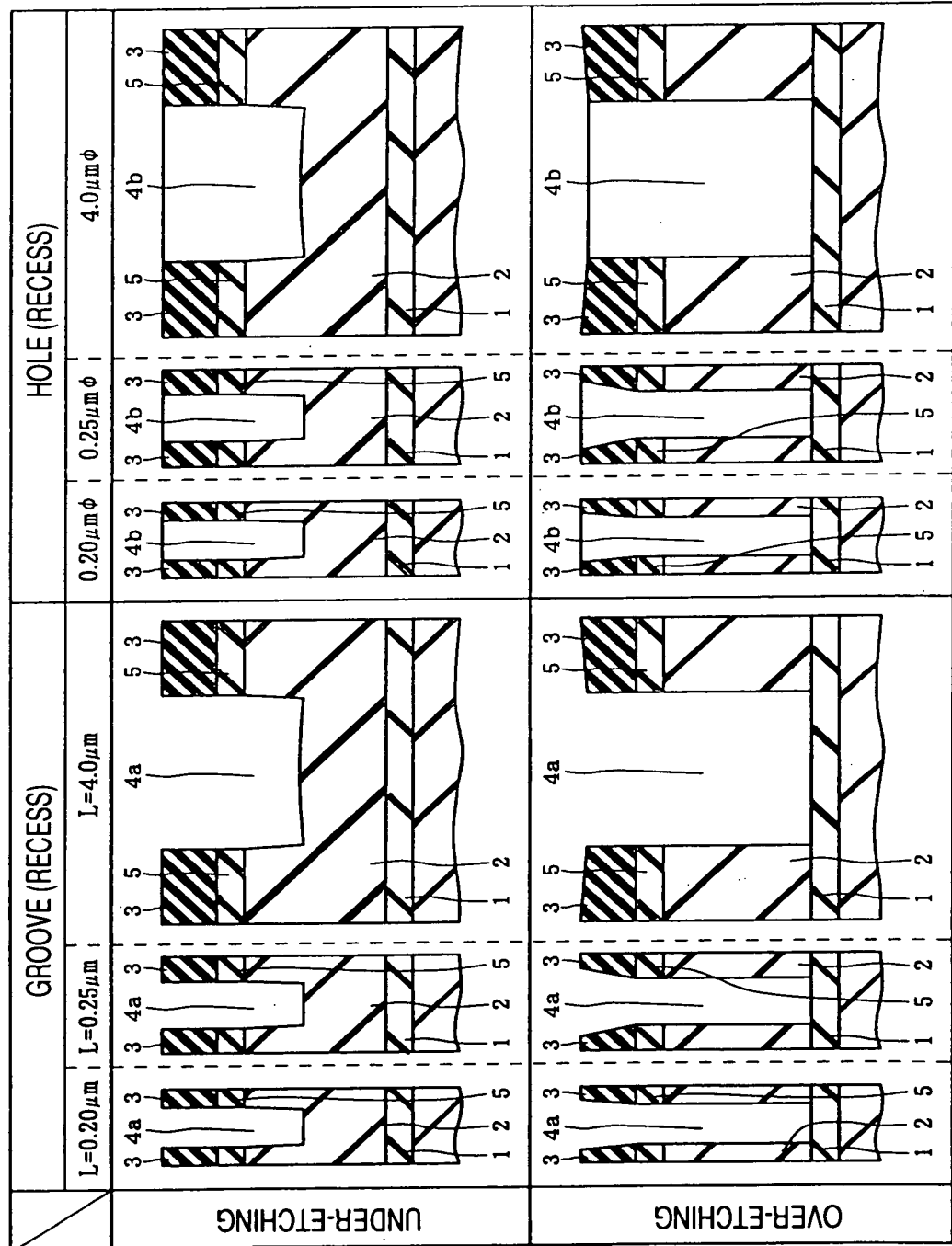
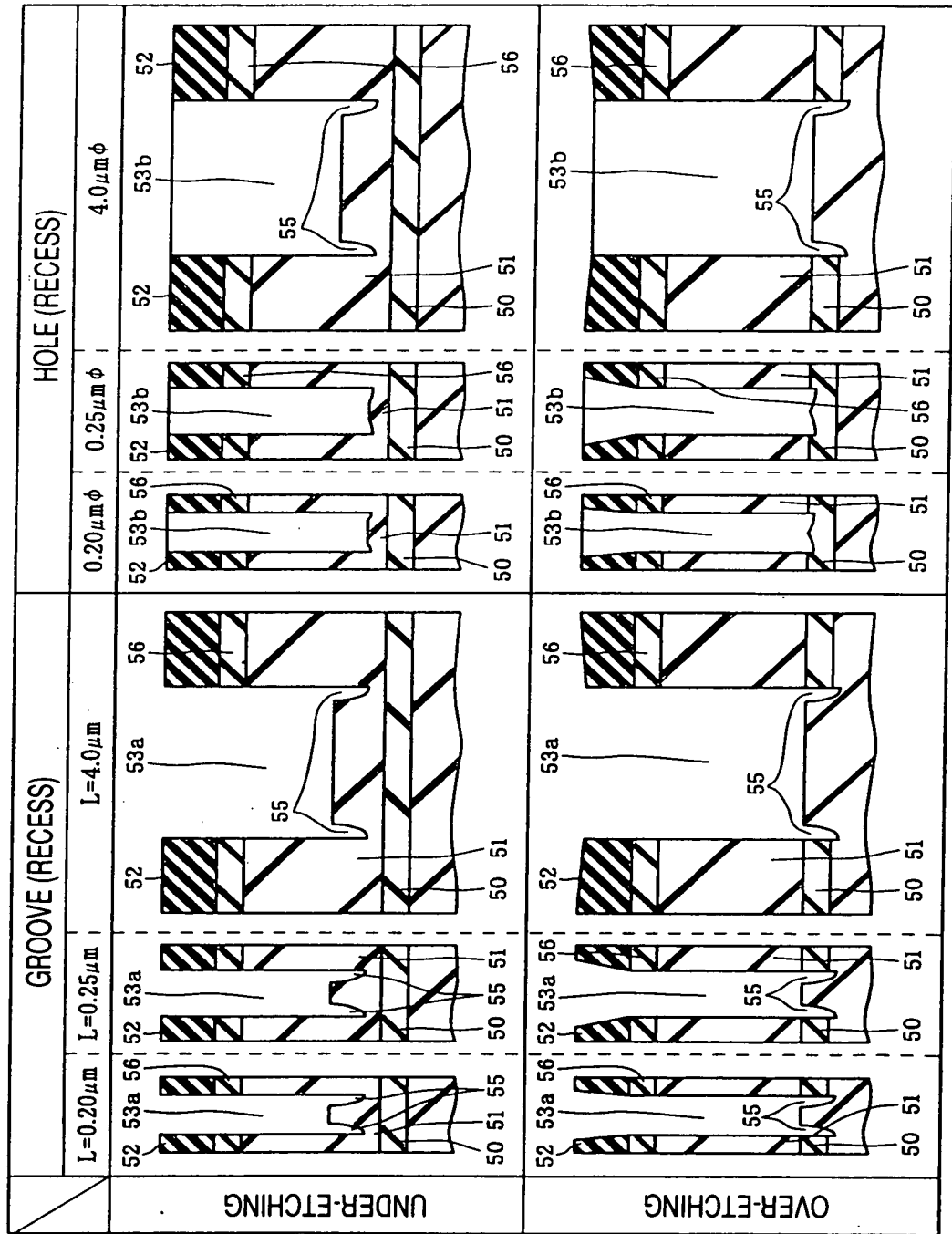
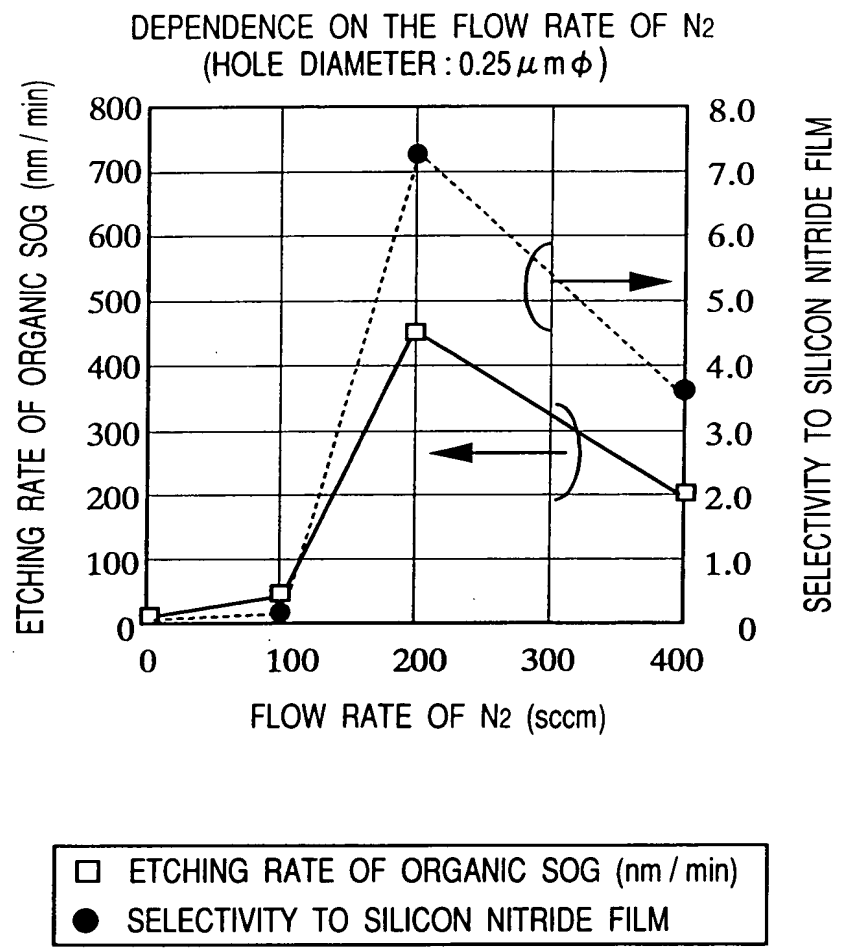


FIG. 8



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FIG. 9

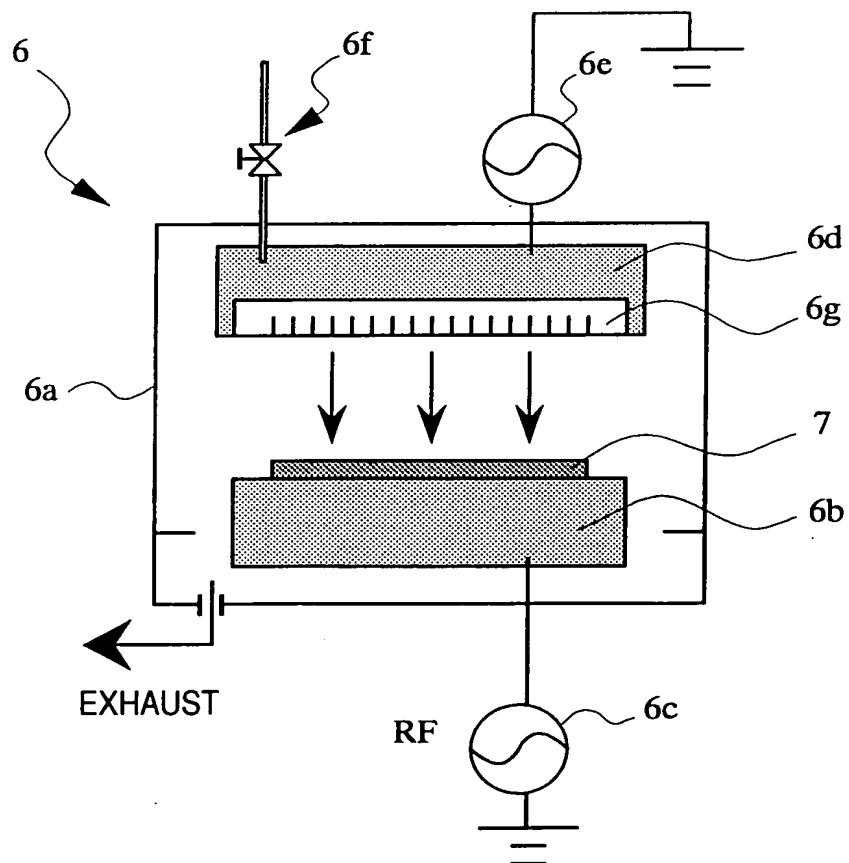


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FIG. 10

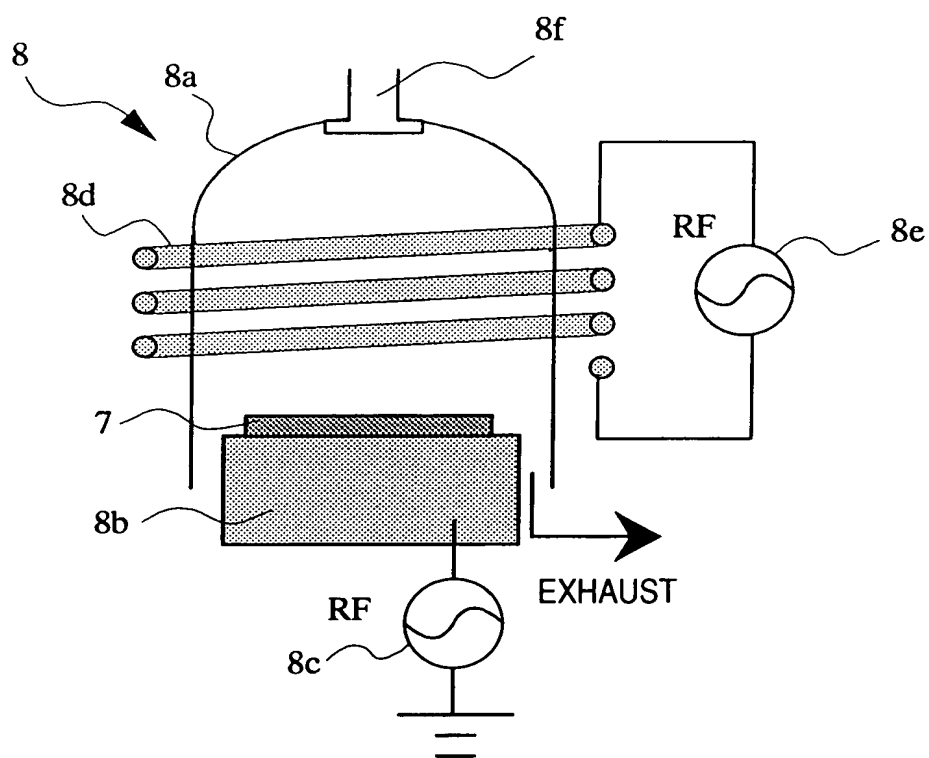
	CF GAS ALONE	CF GAS / O <sub>2</sub>	CF GAS / N <sub>2</sub>
ETCHING RATE	×	○	○
SELECTIVITY	×	○ ———— ×	○
FORM	△	× ———— ○	○
ELIMINATION PROPERTY	×	○	○
SYNTHETIC EVALUATION	×	△	○

FIG. 11

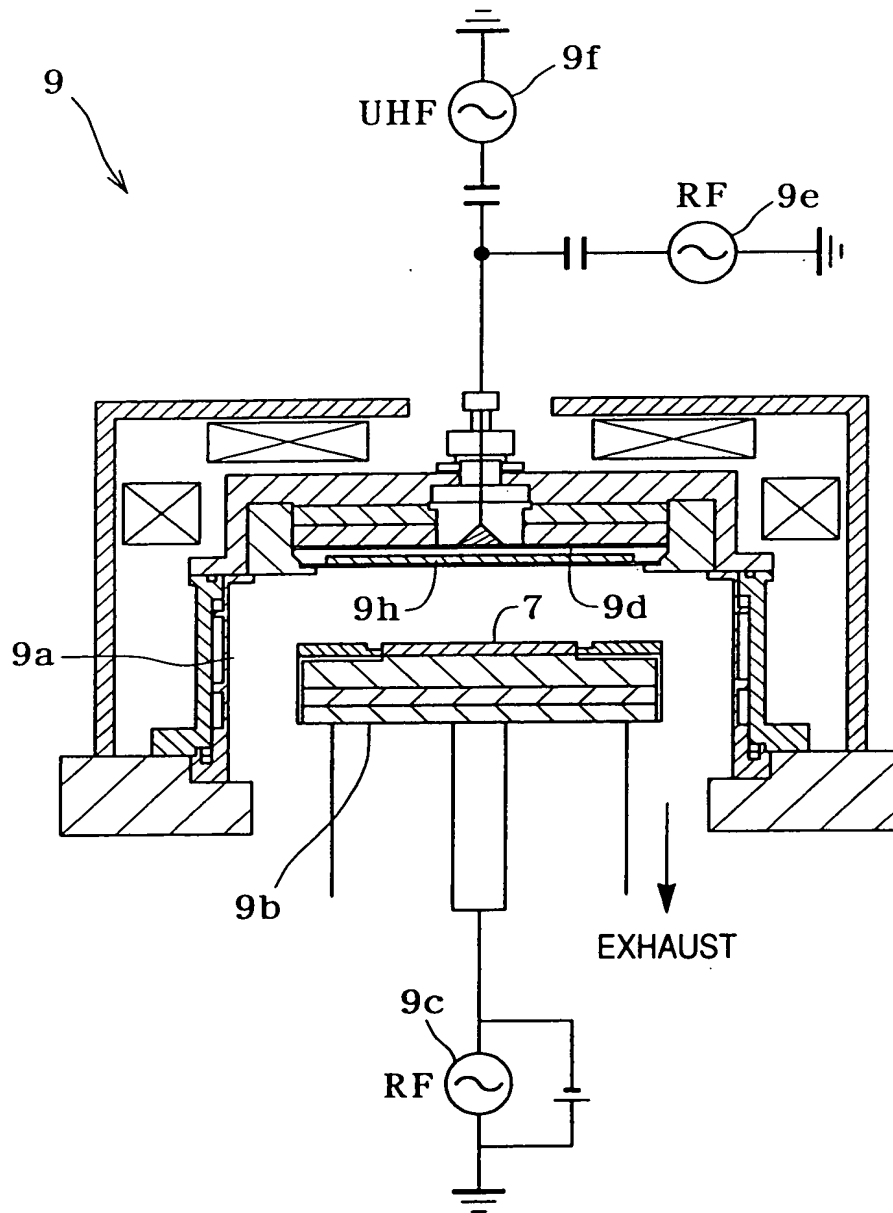


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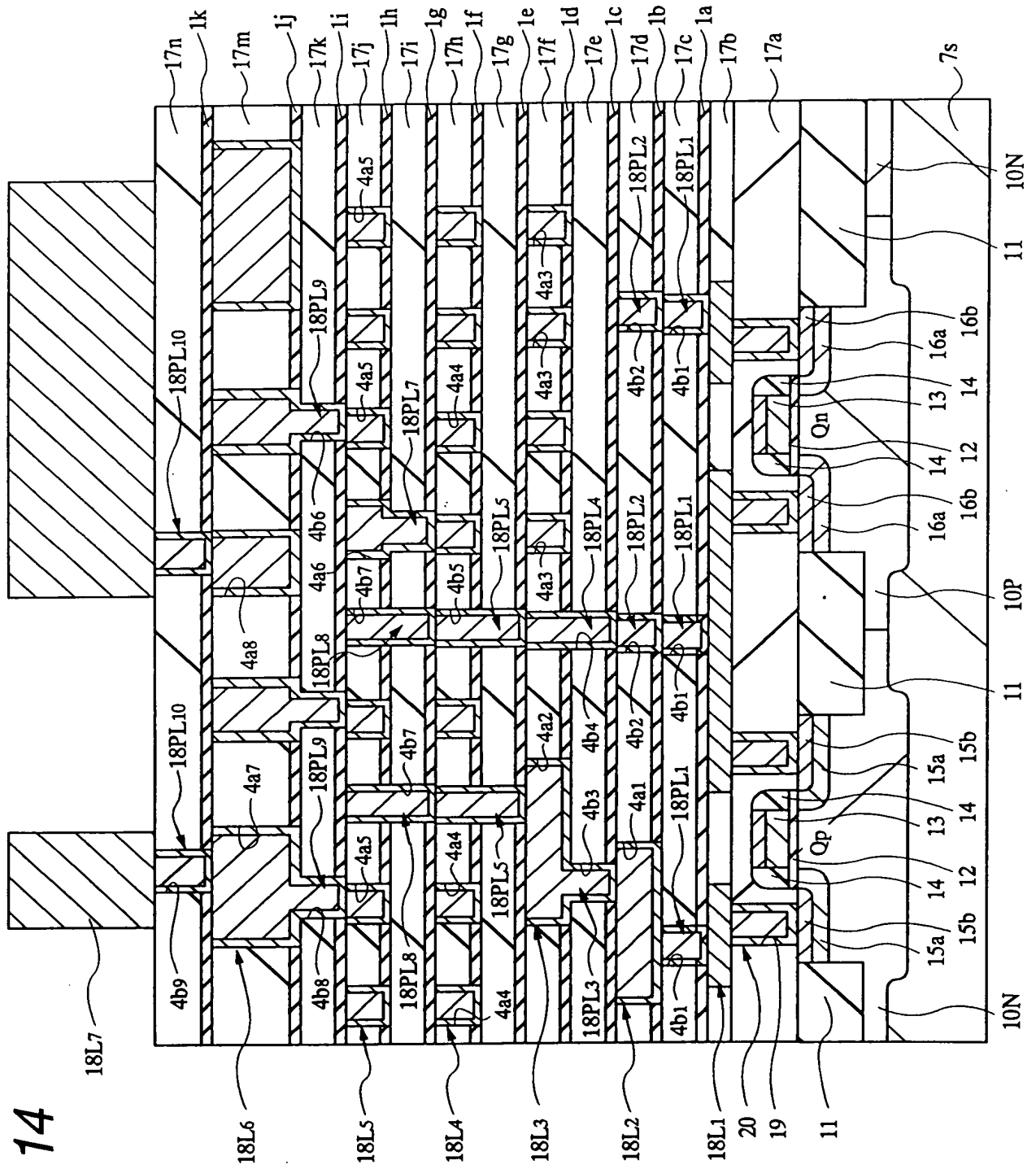
FIG. 12



**FIG. 13**



**FIG. 14**



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FIG. 15

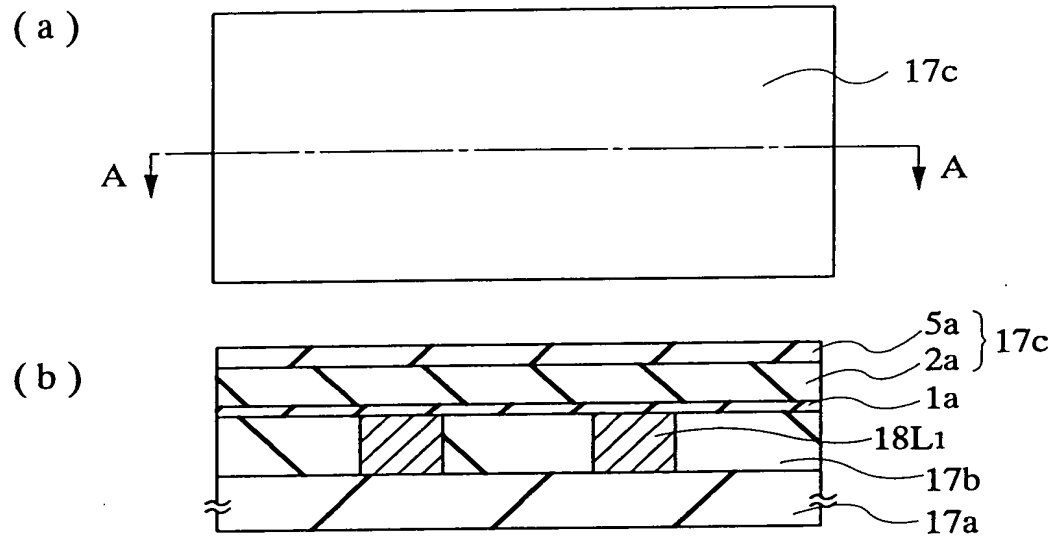
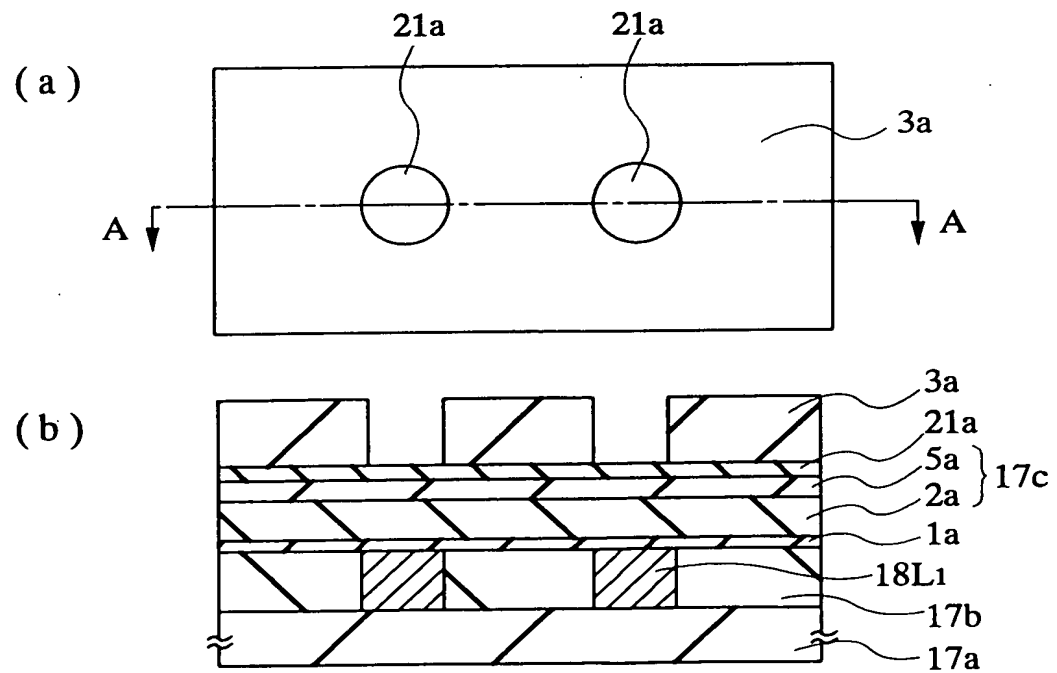


FIG. 16



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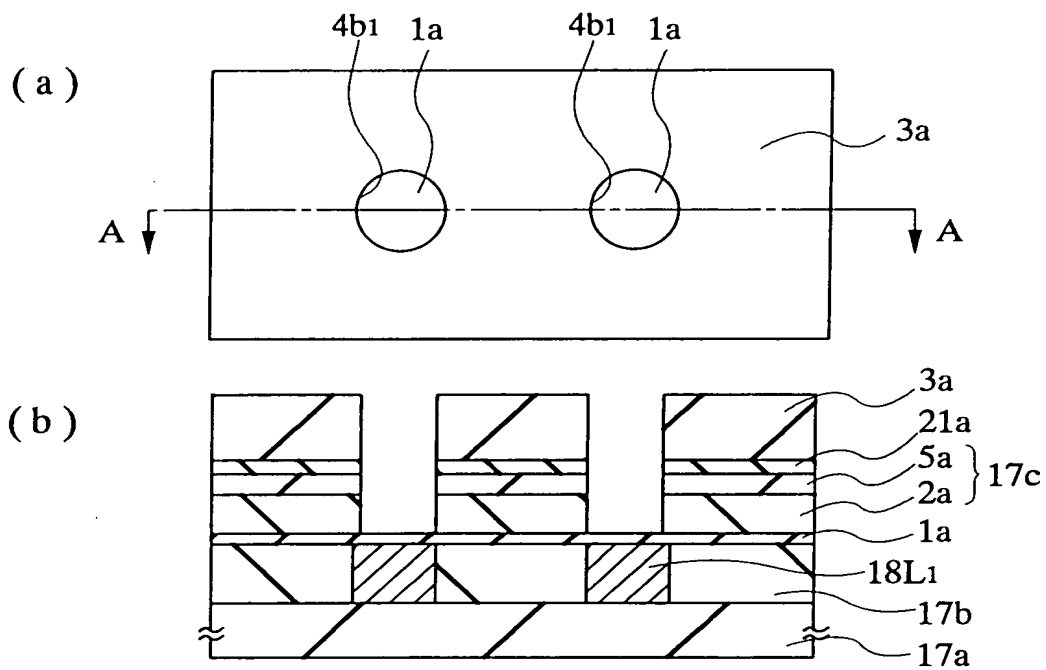
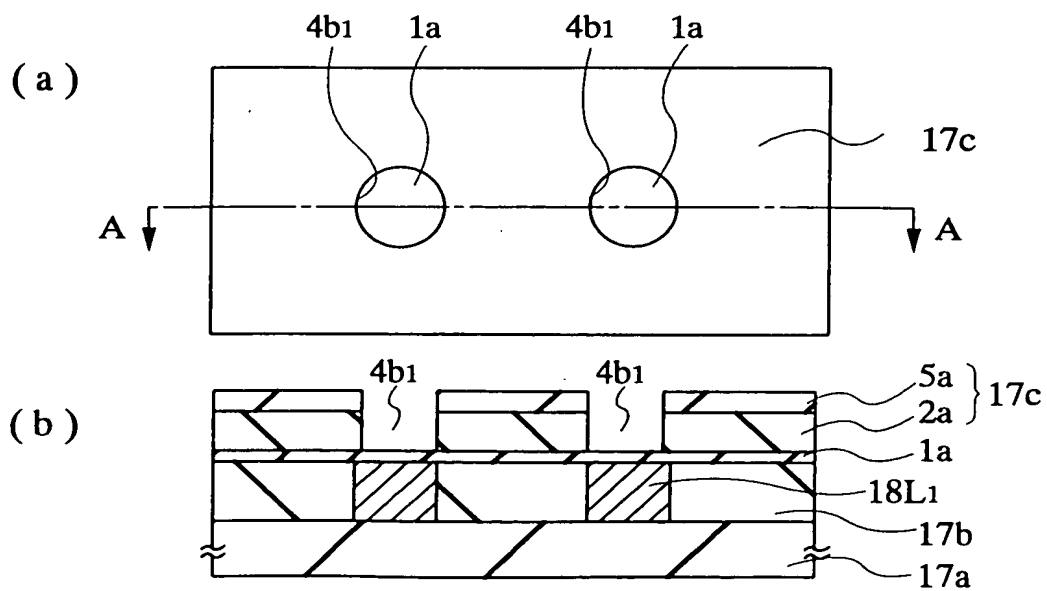
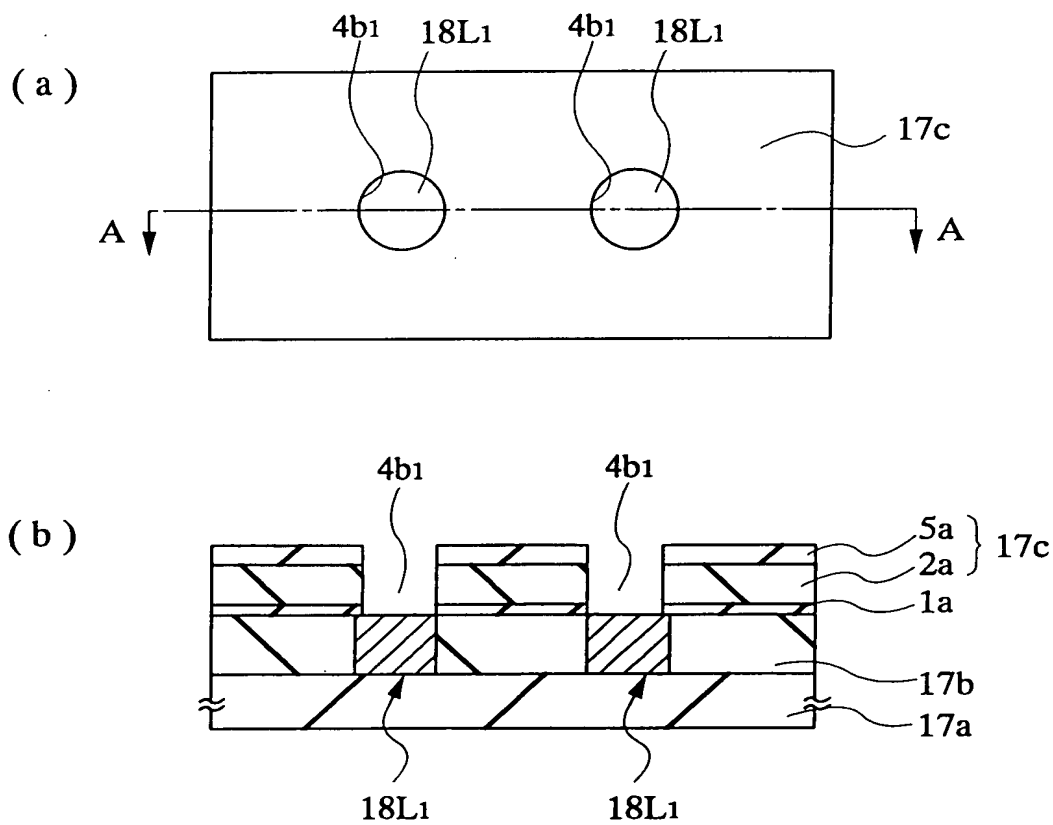
**FIG. 17****FIG. 18**

FIG. 19



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FIG. 20

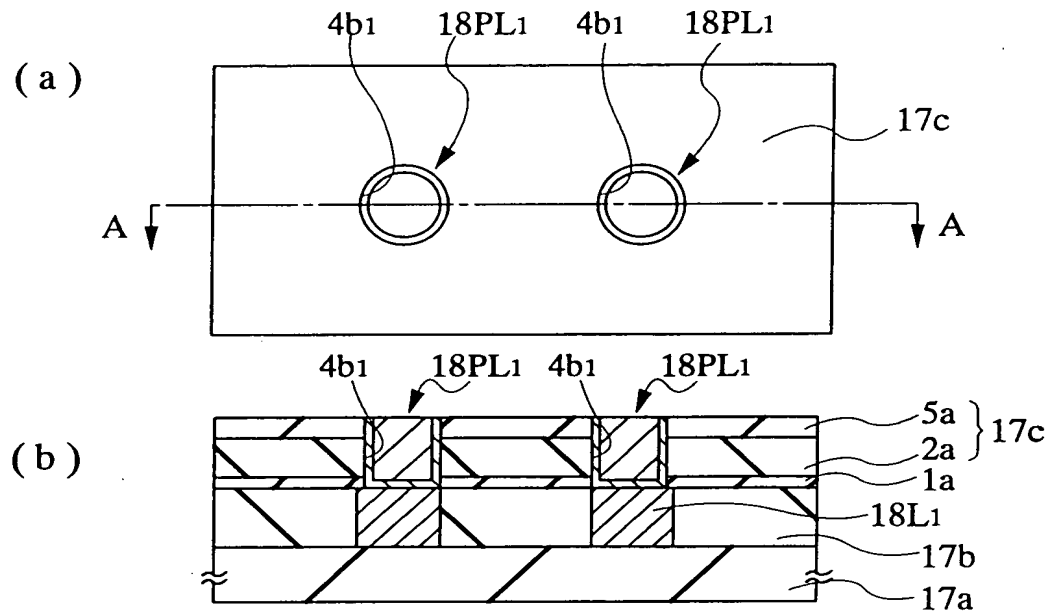
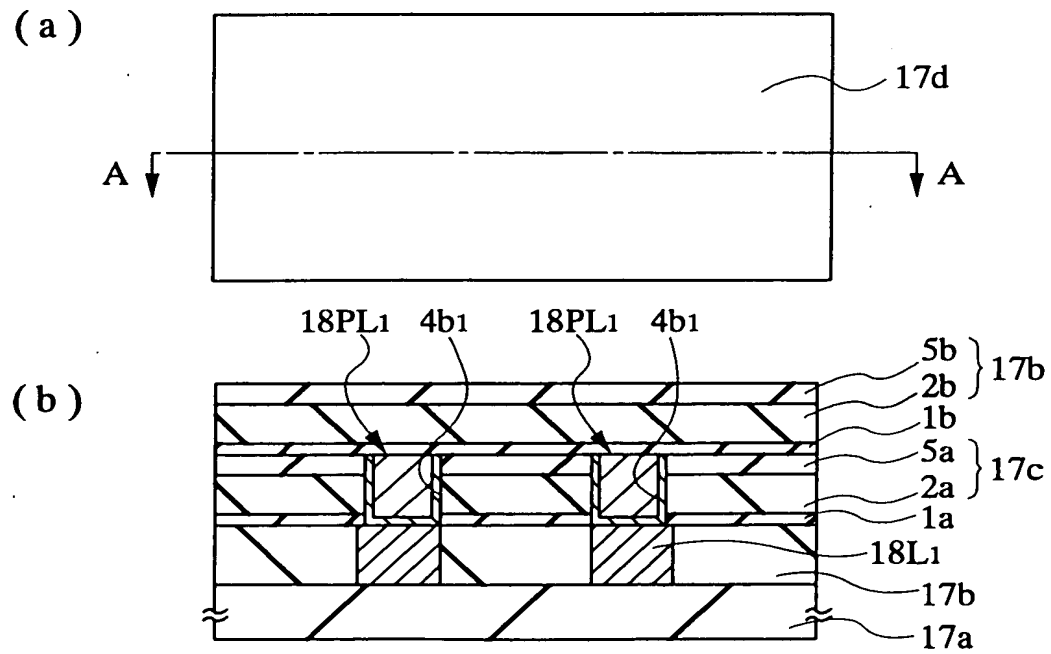


FIG. 21



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FIG. 22

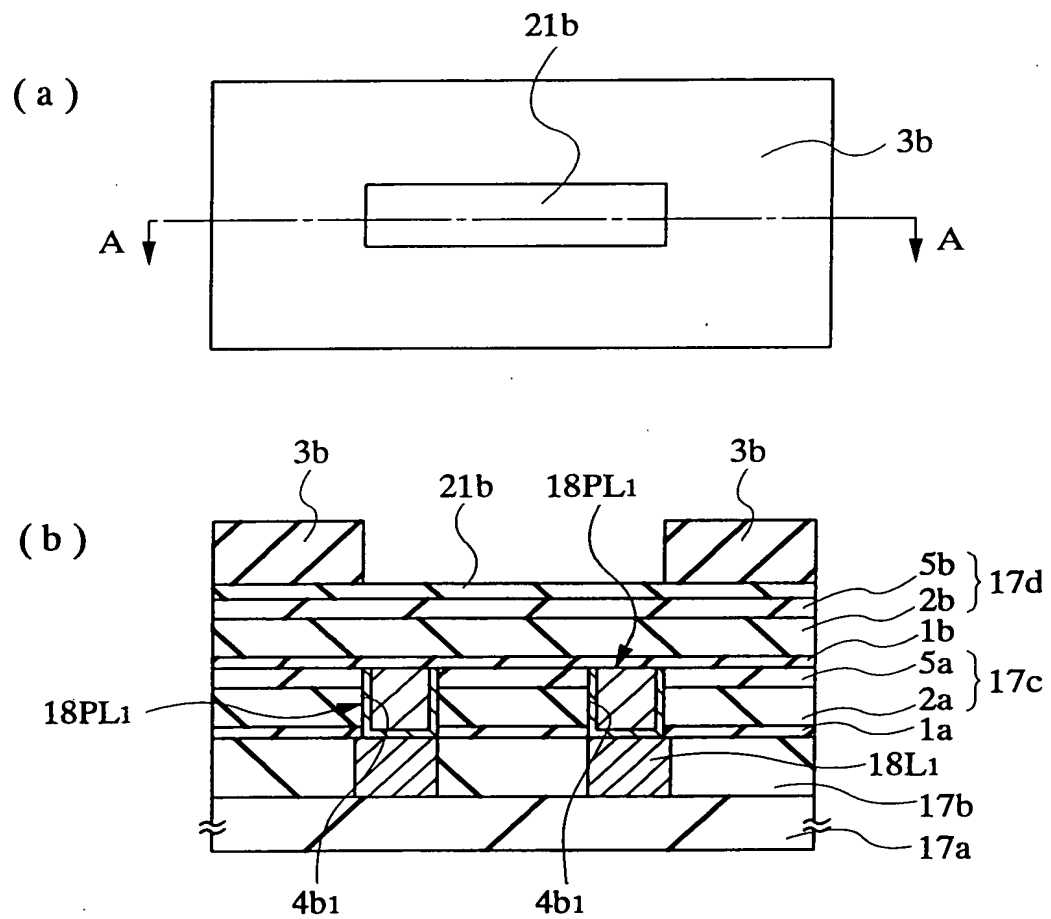


FIG. 23

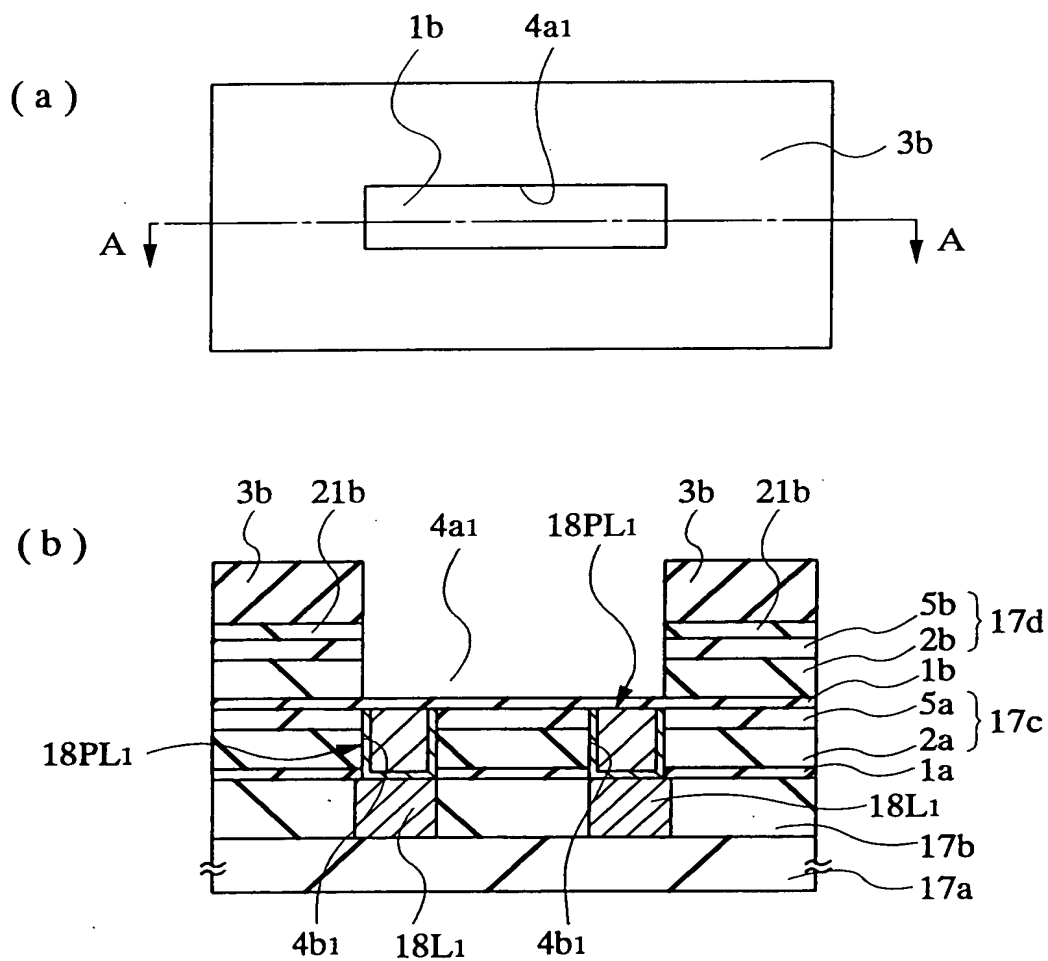


FIG. 24

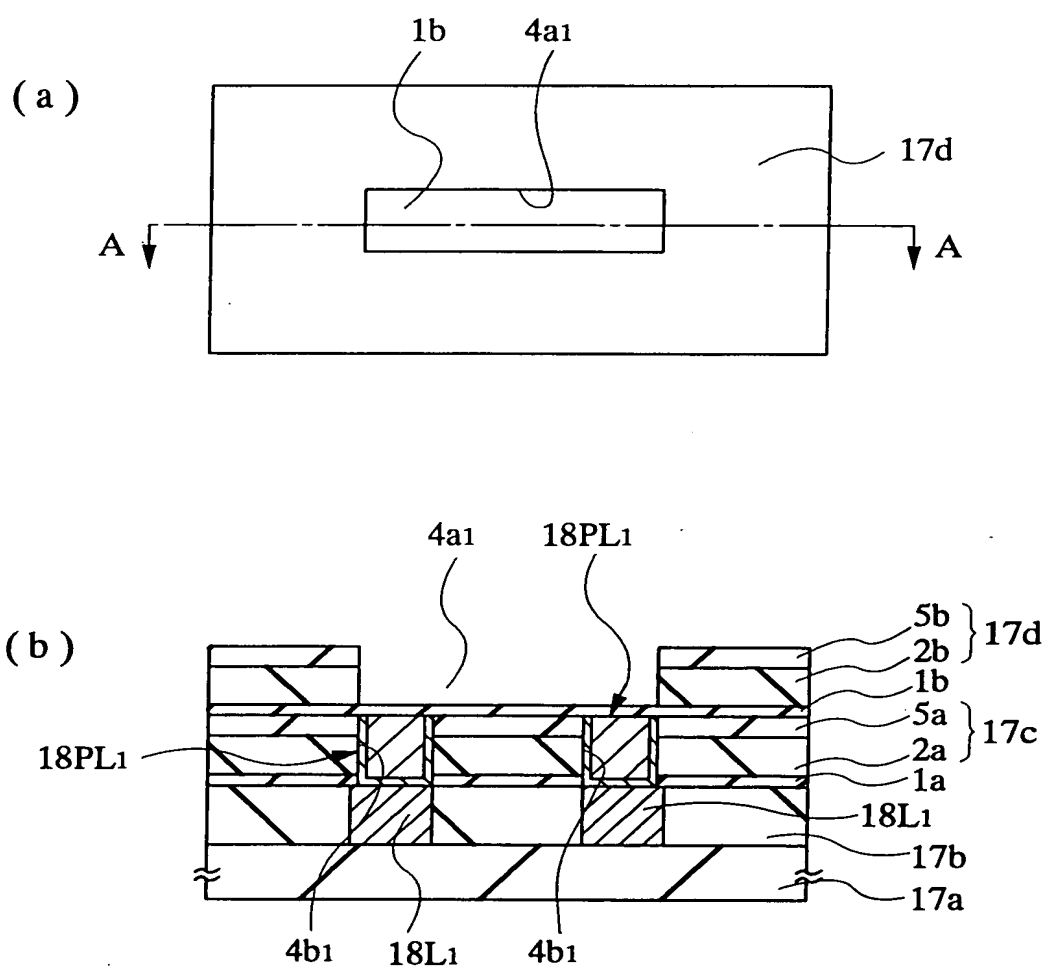


FIG. 25

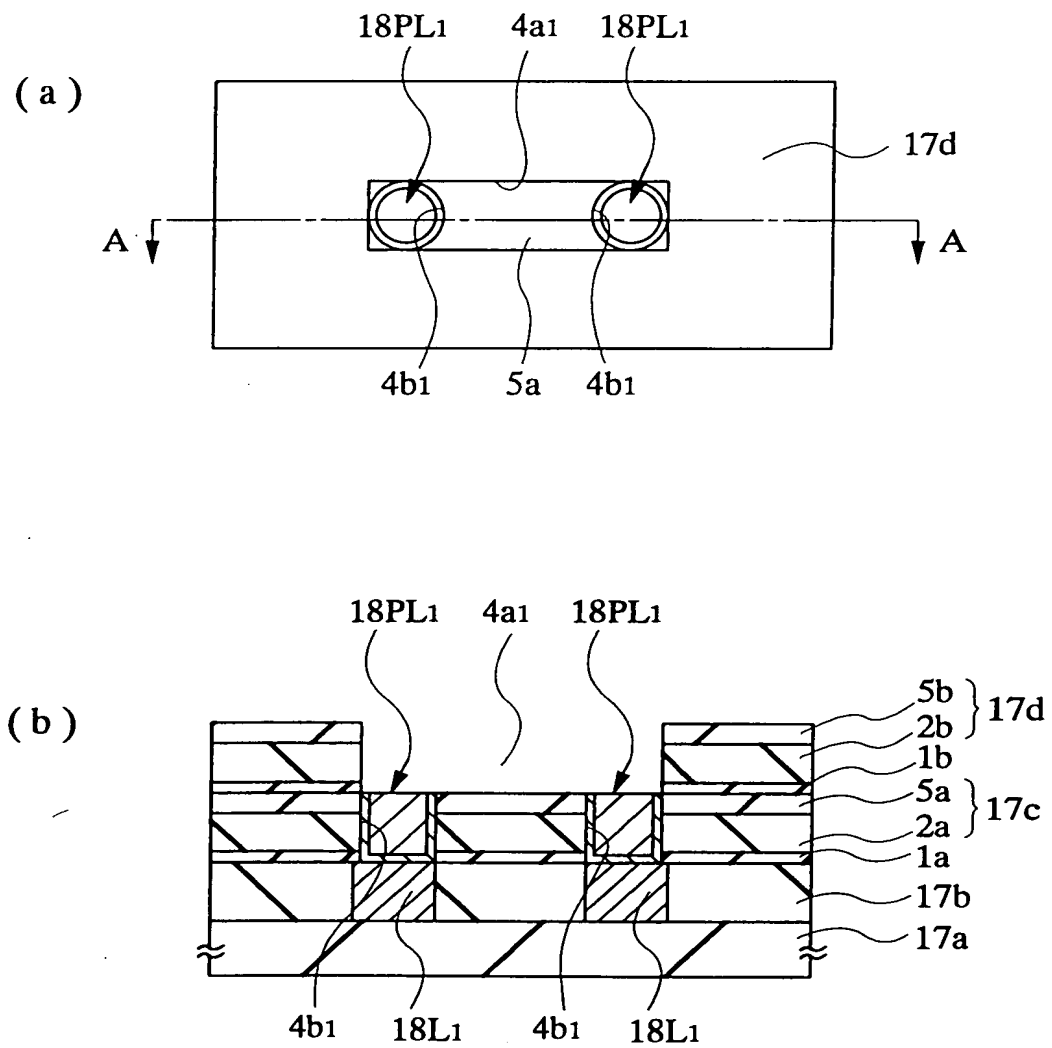
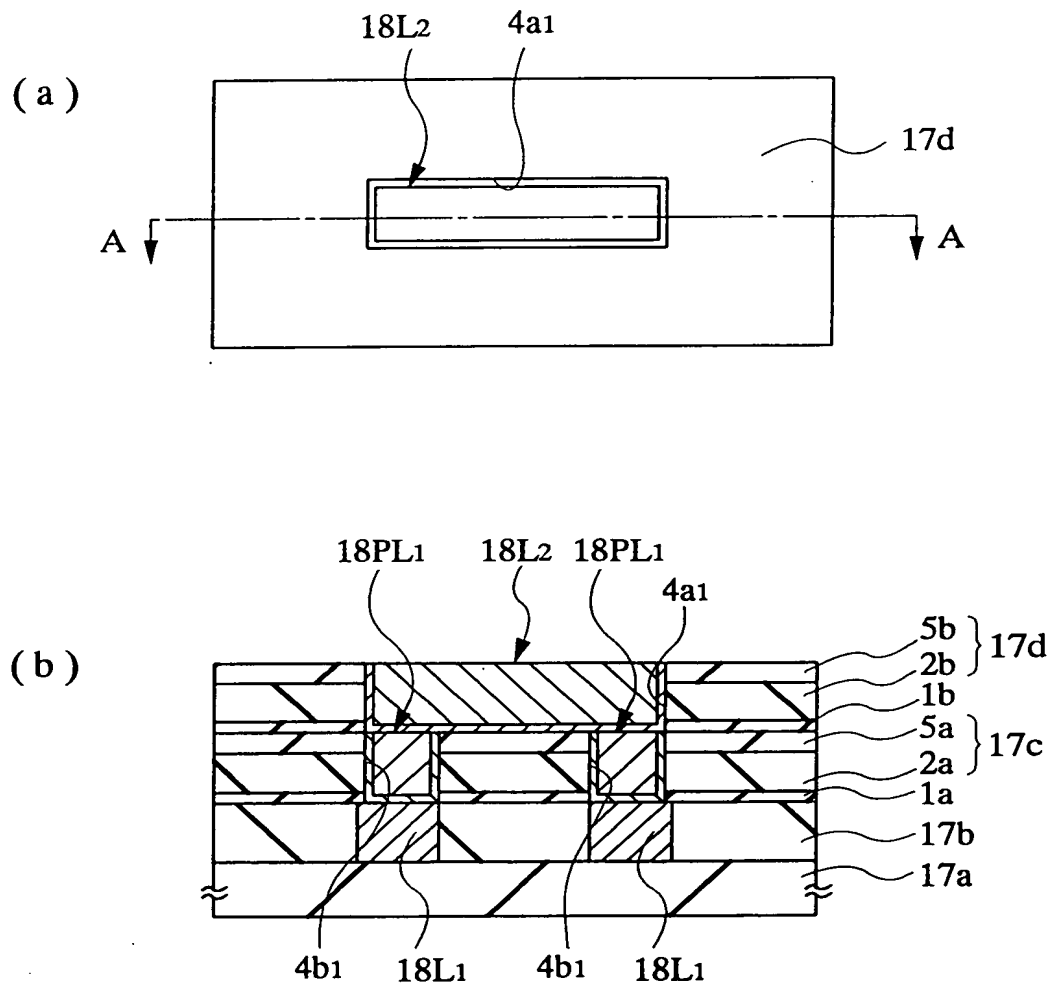


FIG. 26



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FIG. 27

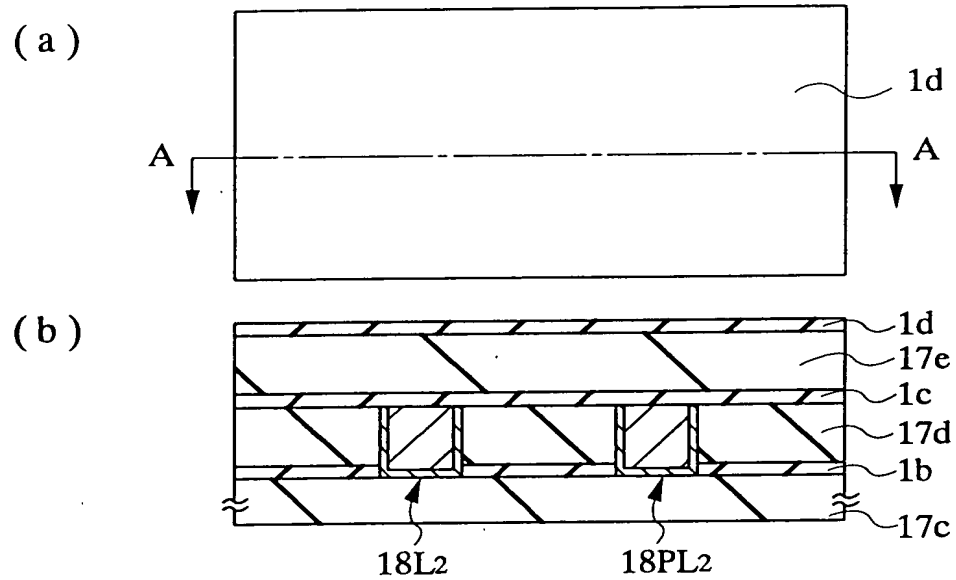


FIG. 28

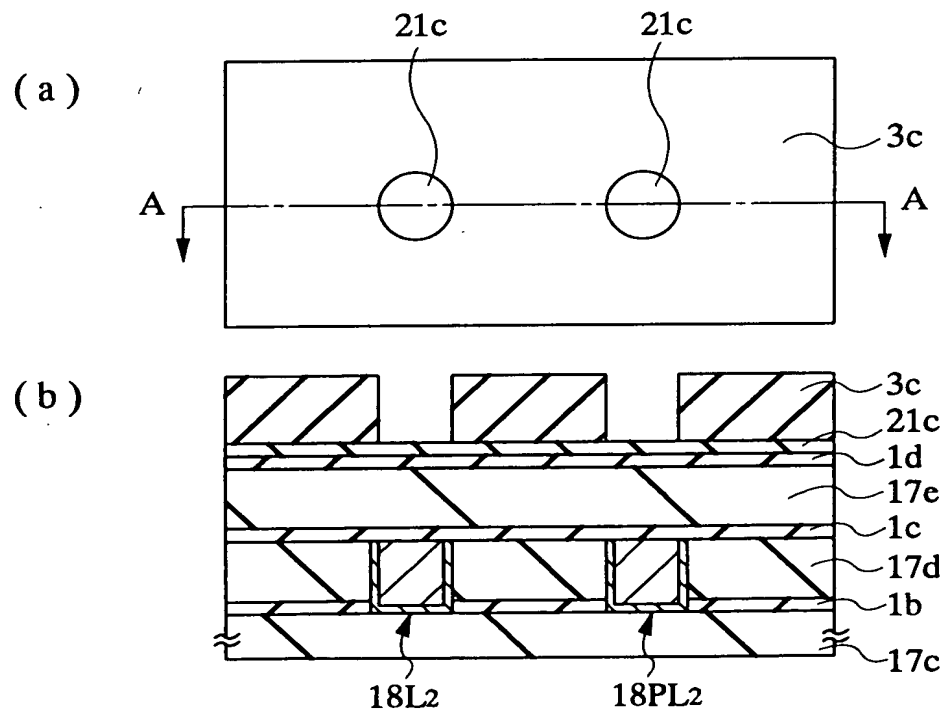


FIG. 29

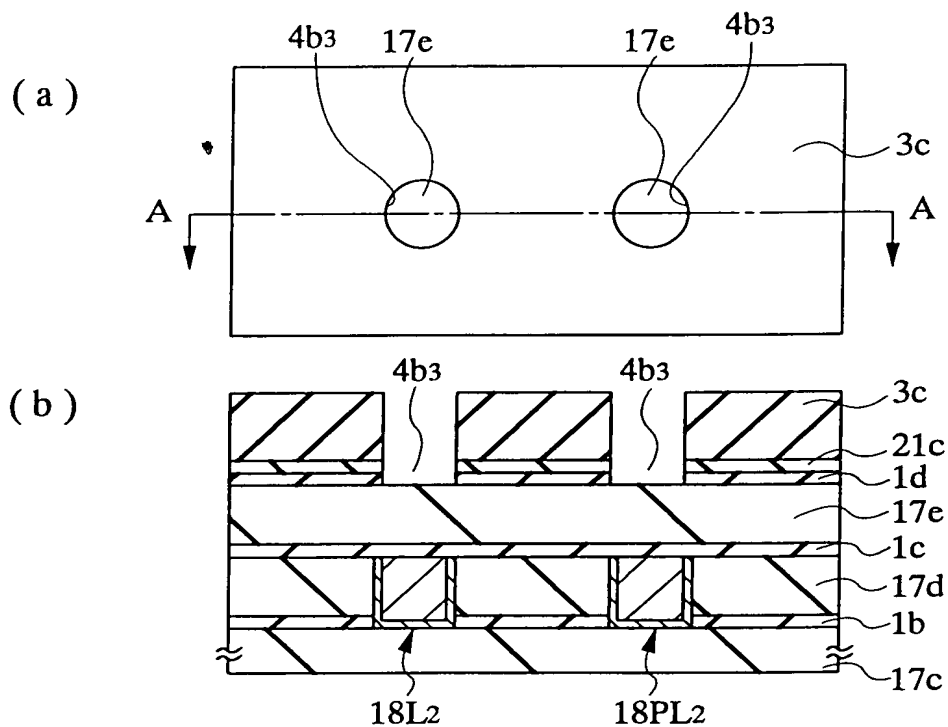


FIG. 30

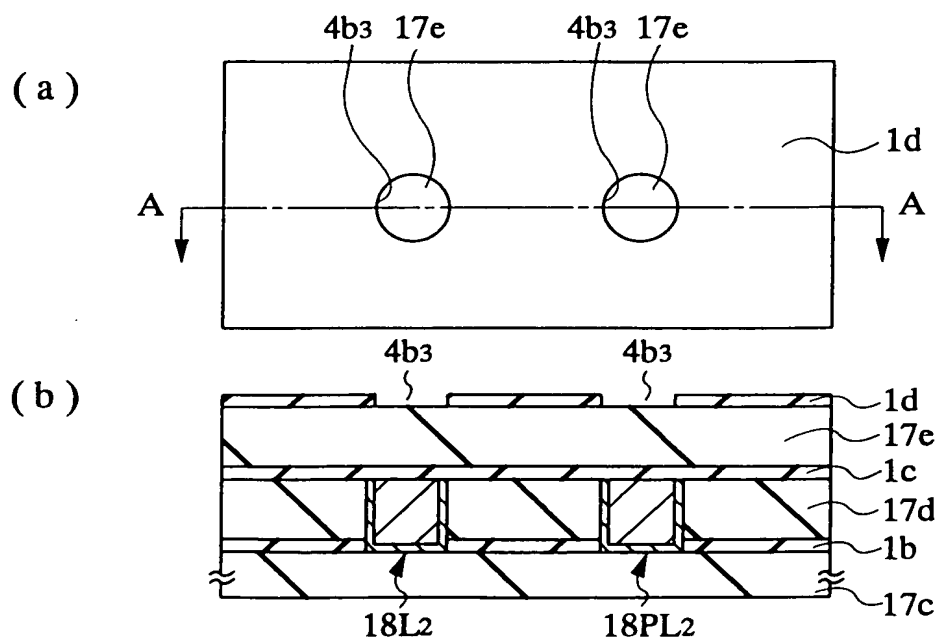
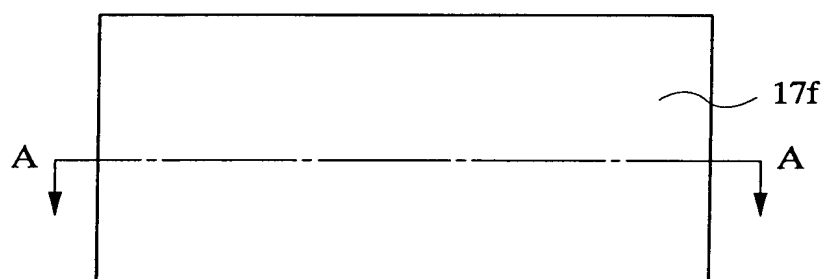


FIG. 31

(a)



(b)

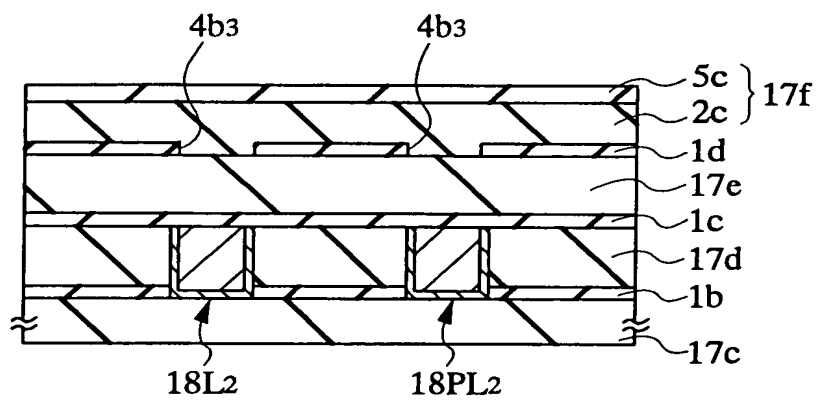


FIG. 32

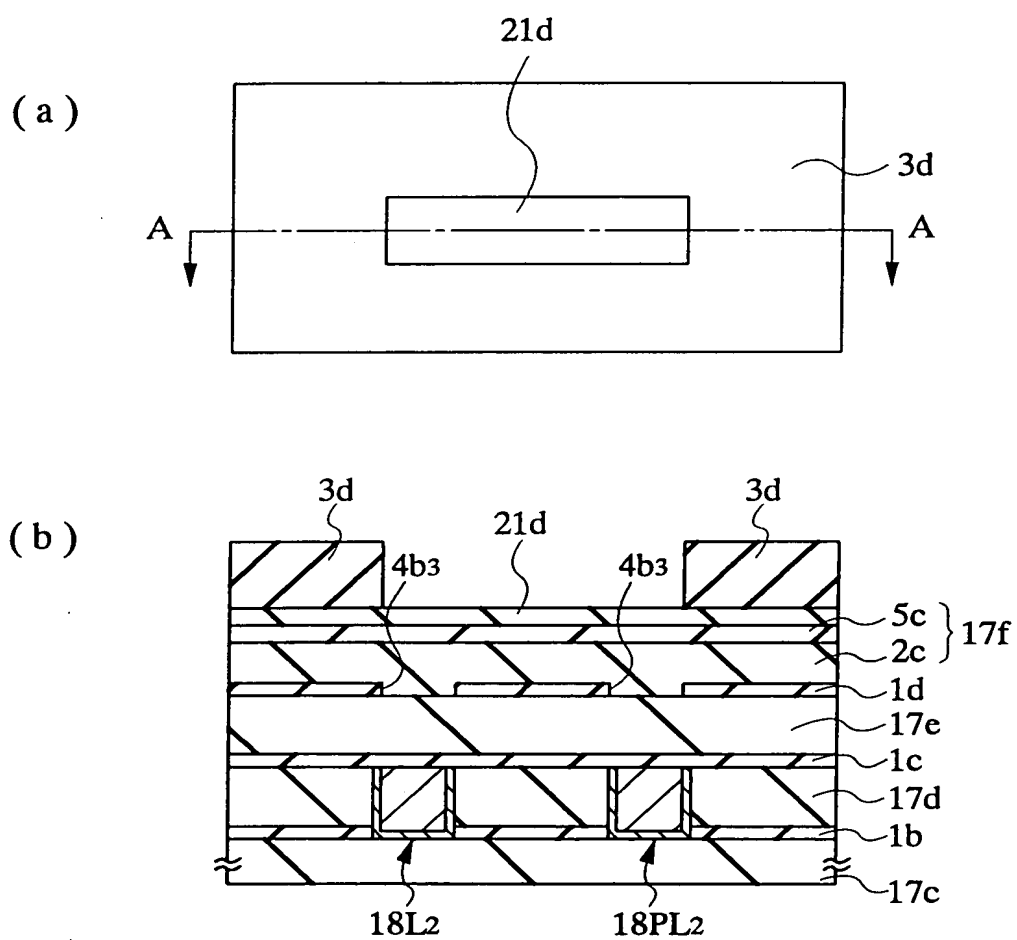
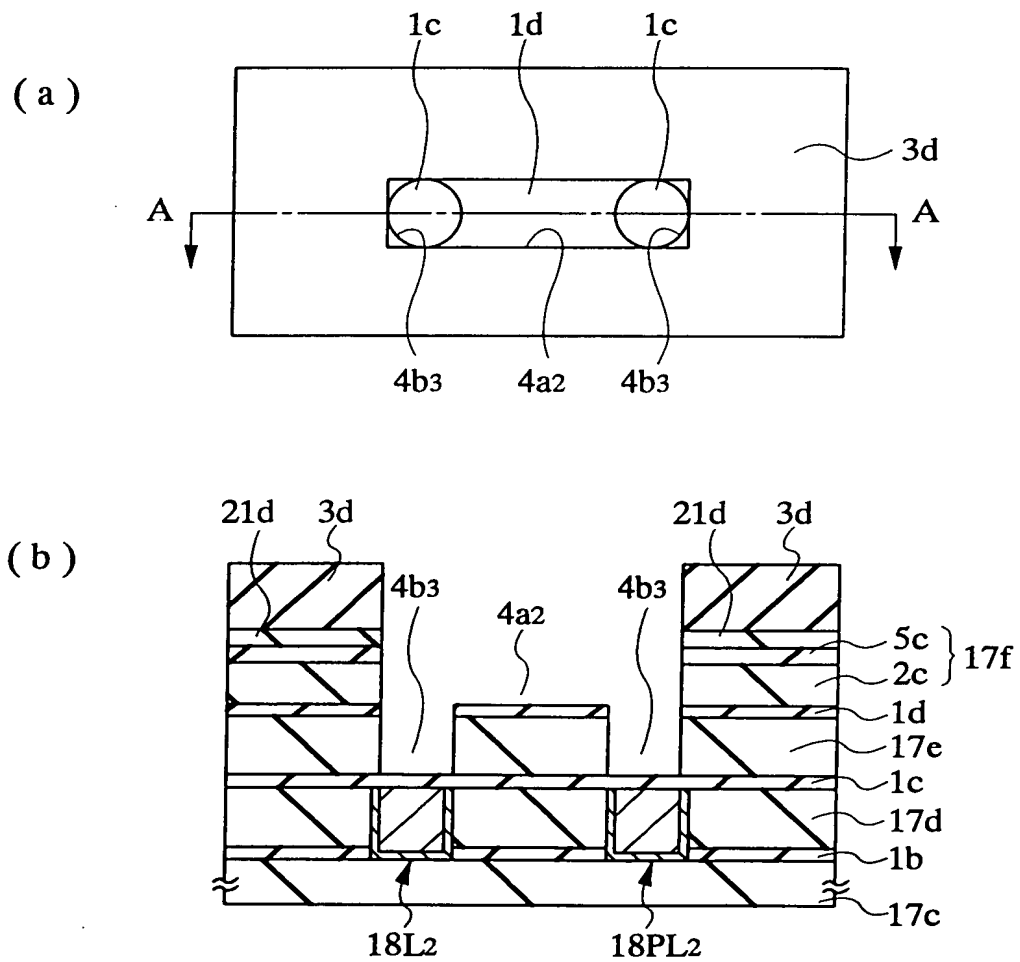
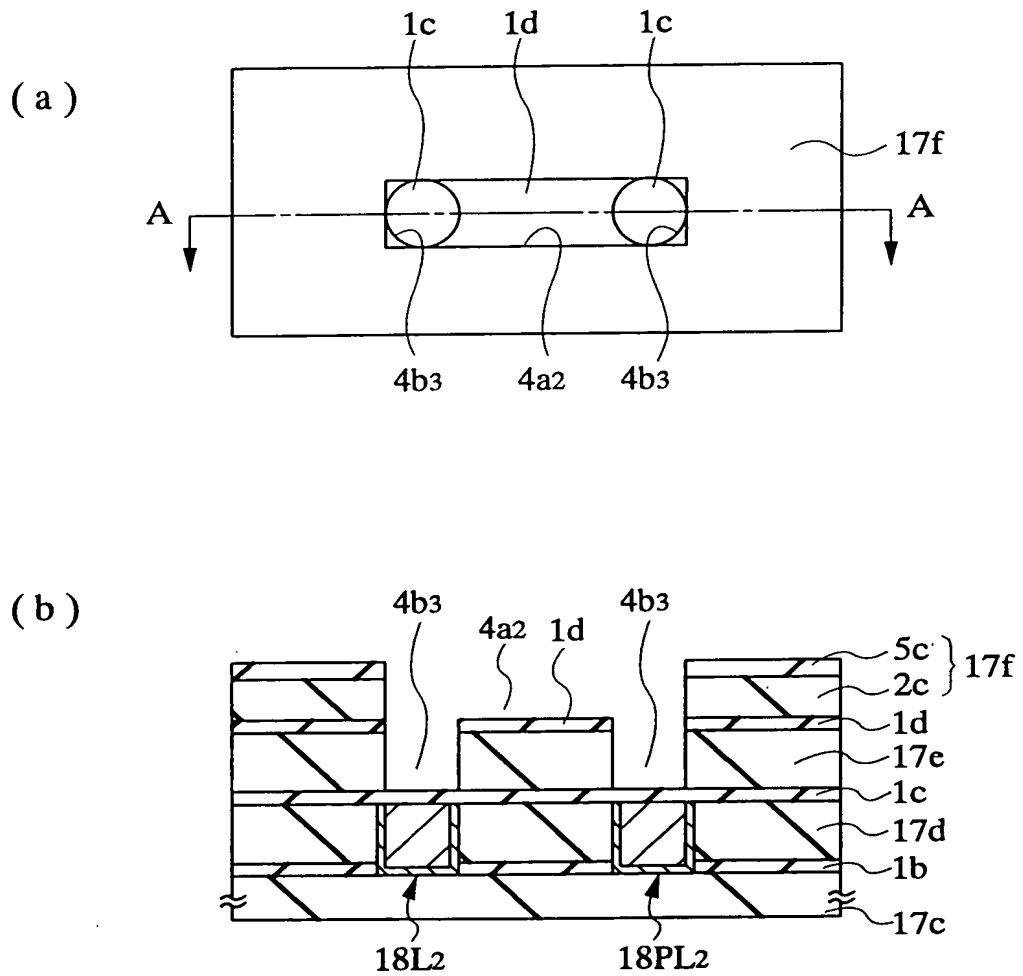


FIG. 33



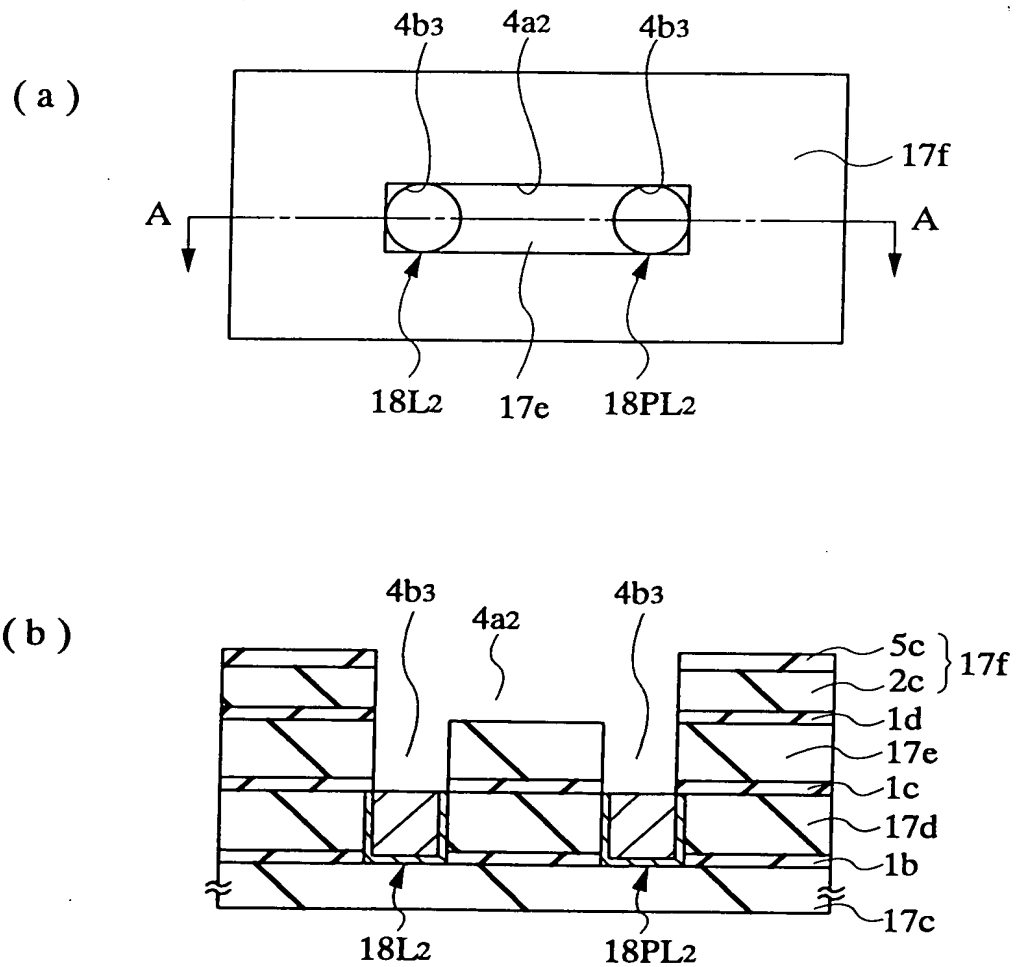
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FIG. 34



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FIG. 35



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FIG. 36

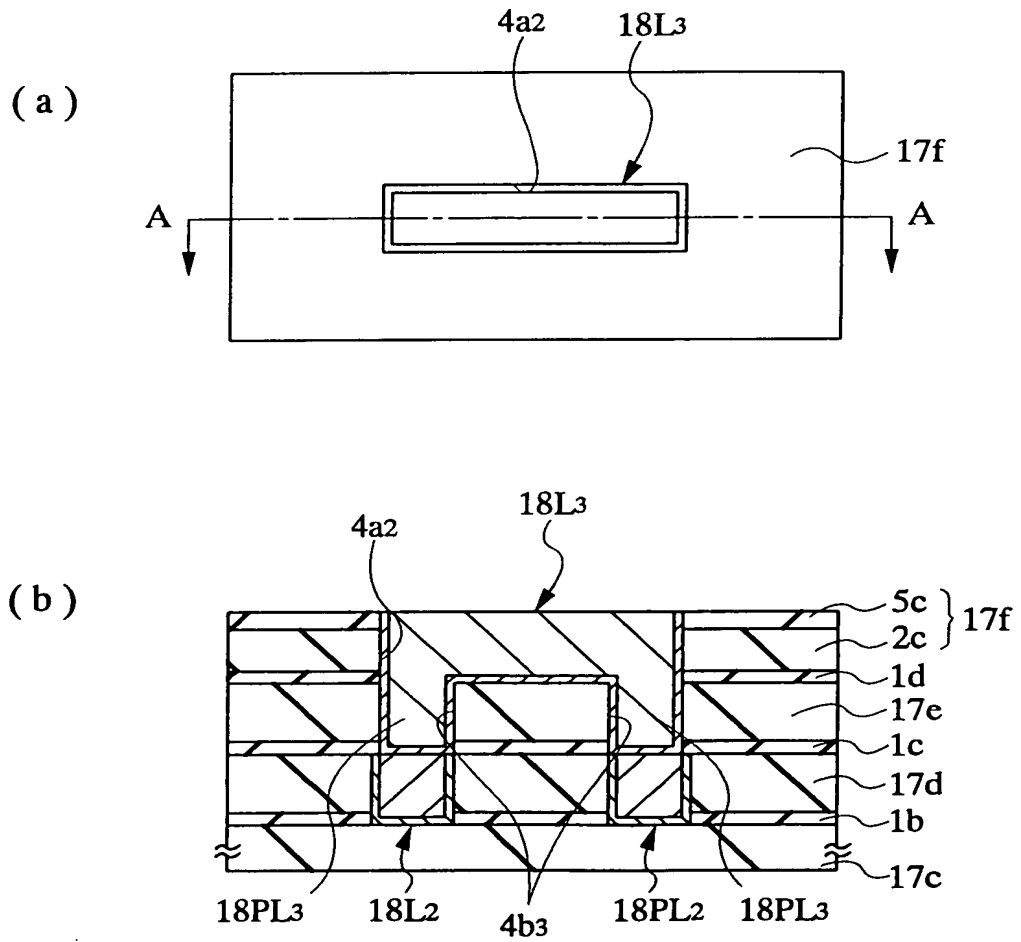


FIG. 37

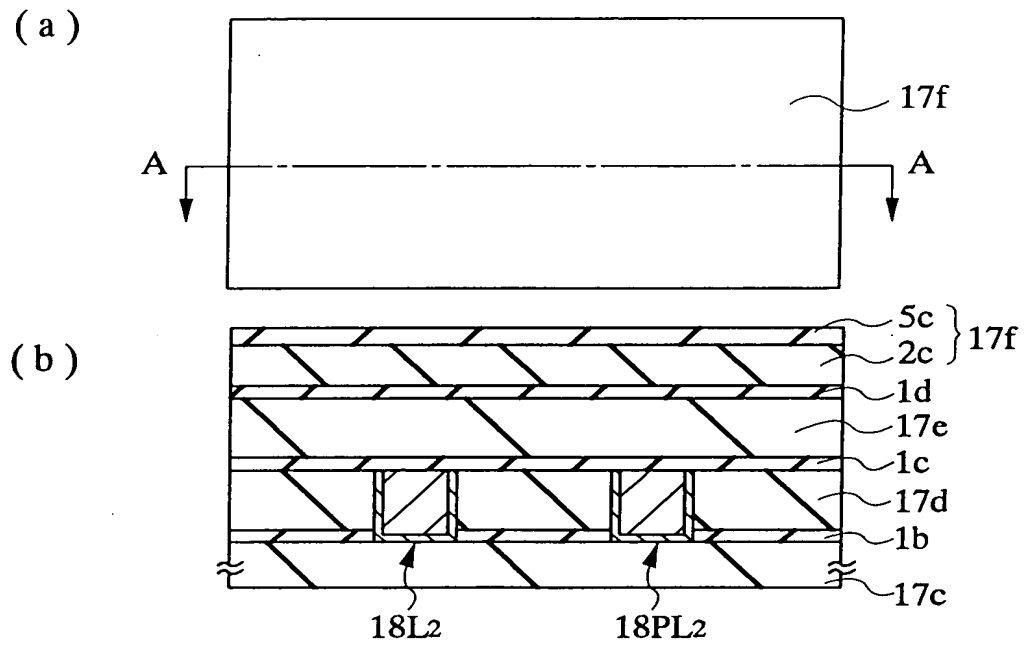


FIG. 38

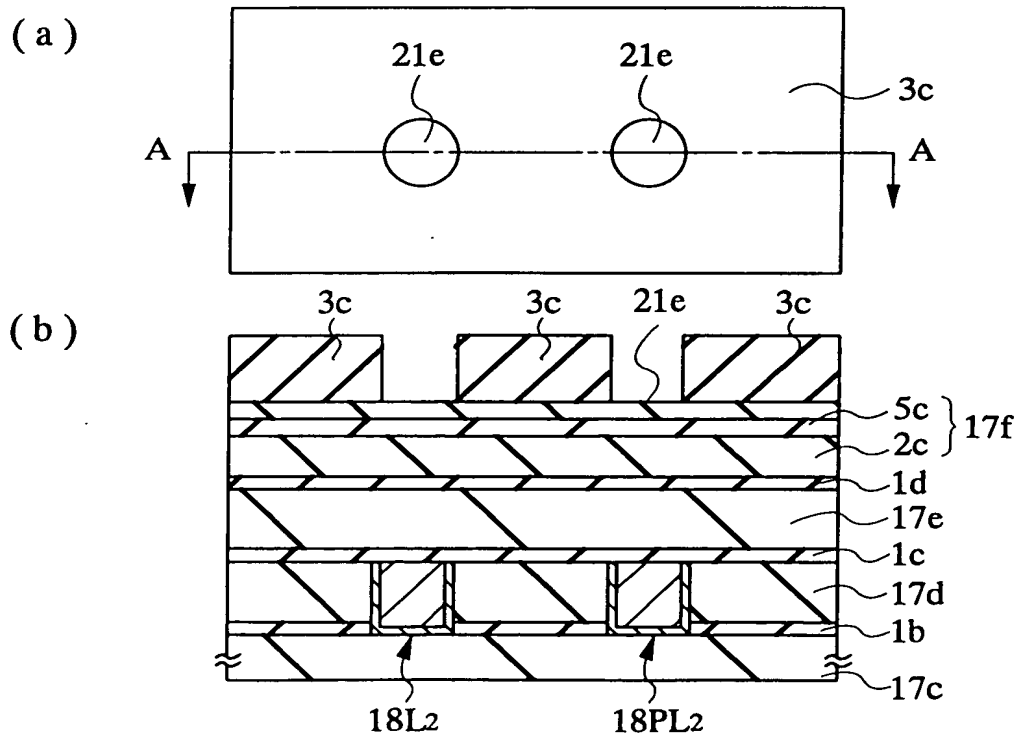


FIG. 39

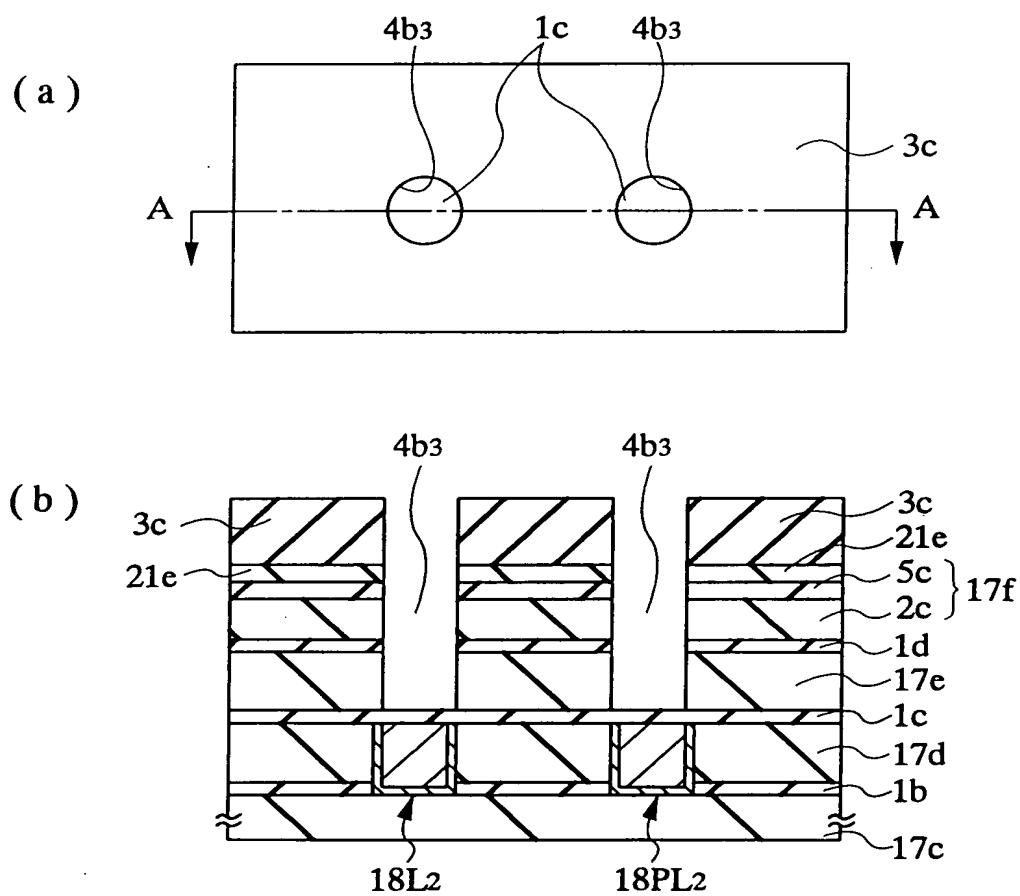
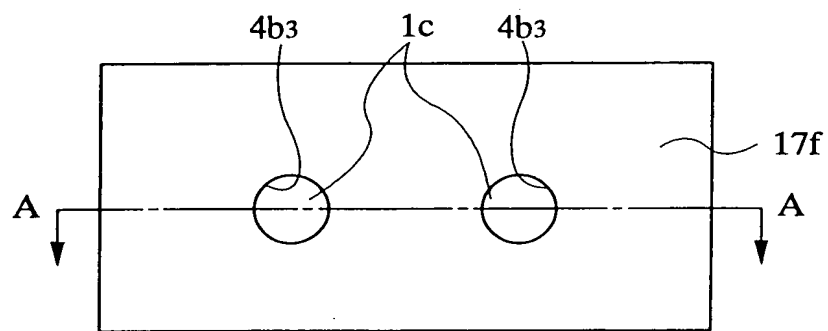


FIG. 40

(a)



(b)

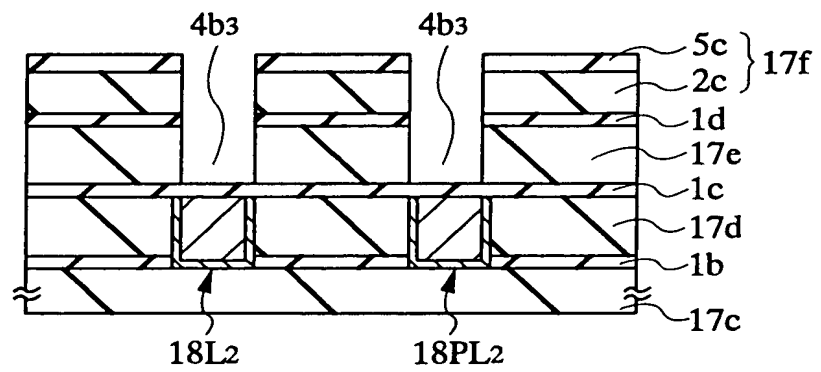
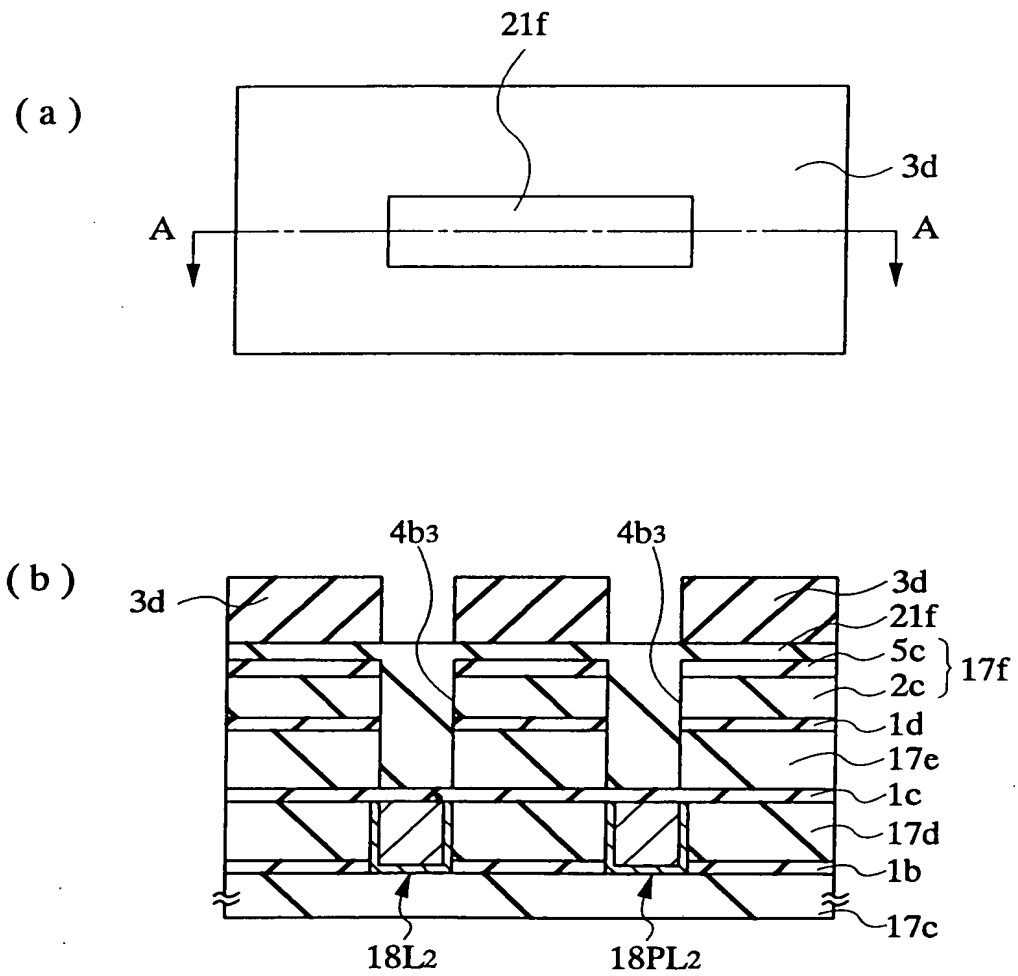
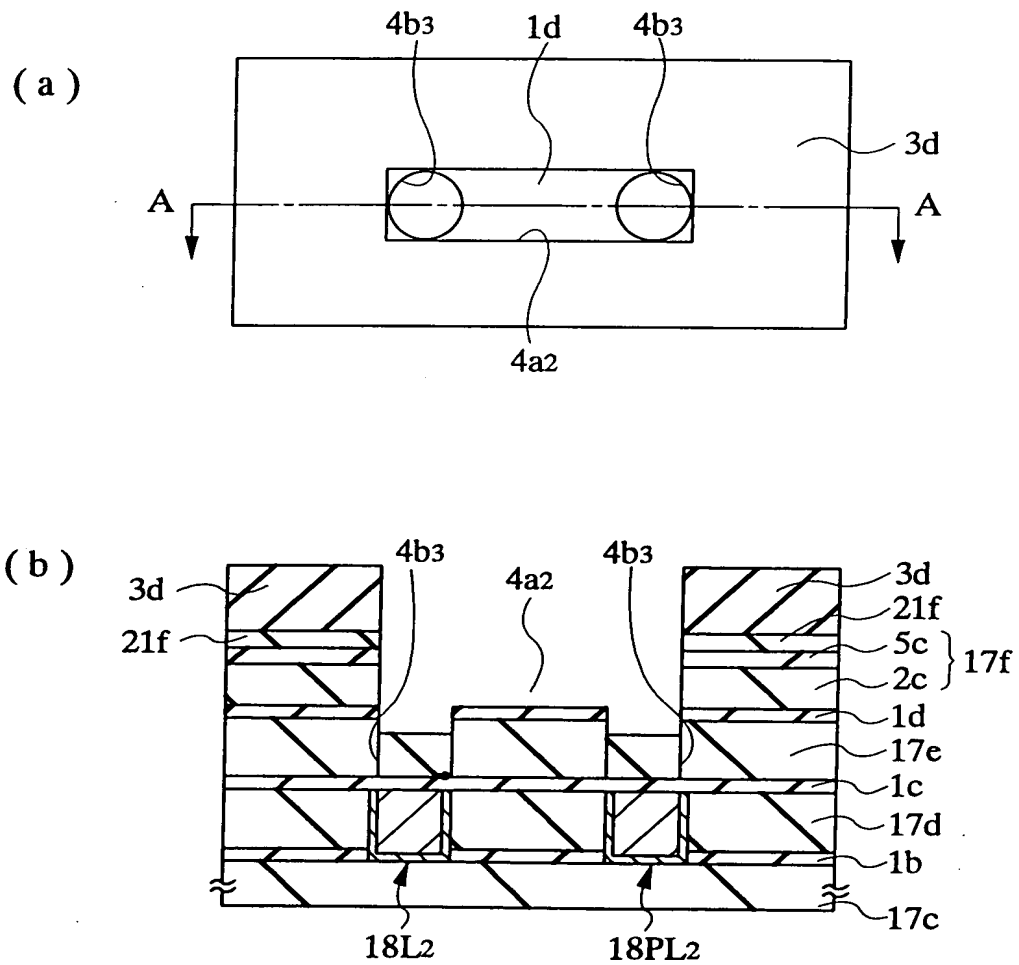


FIG. 41



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FIG. 42



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FIG. 43

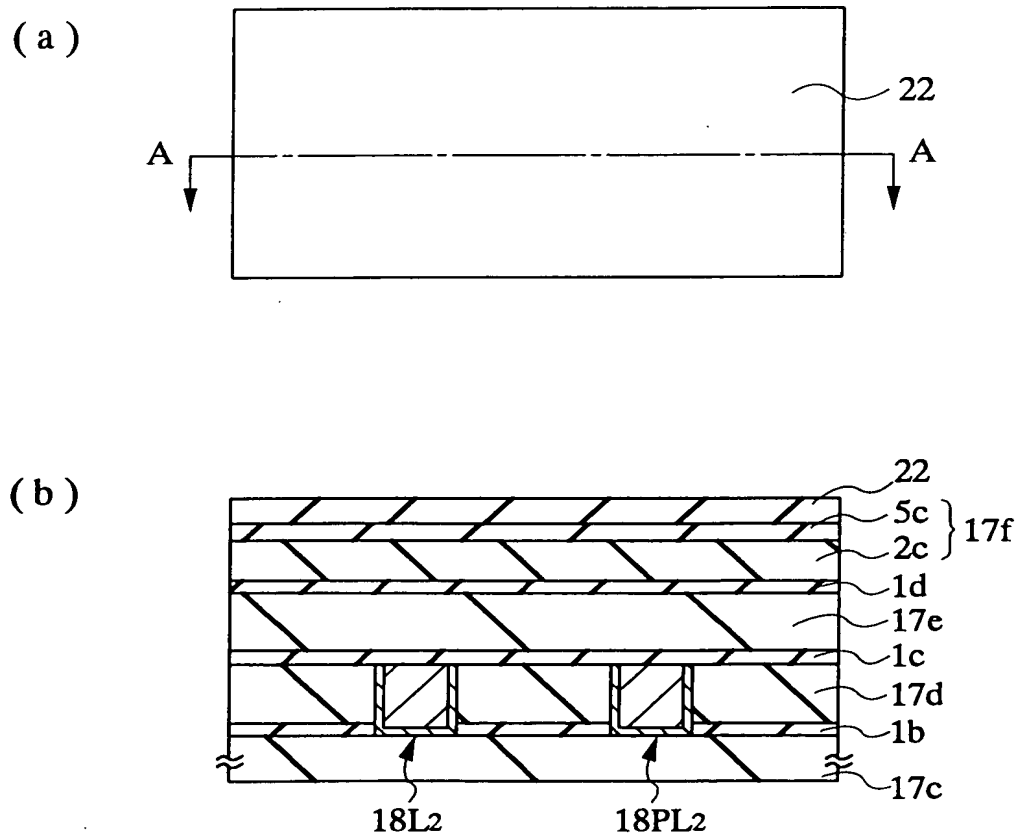
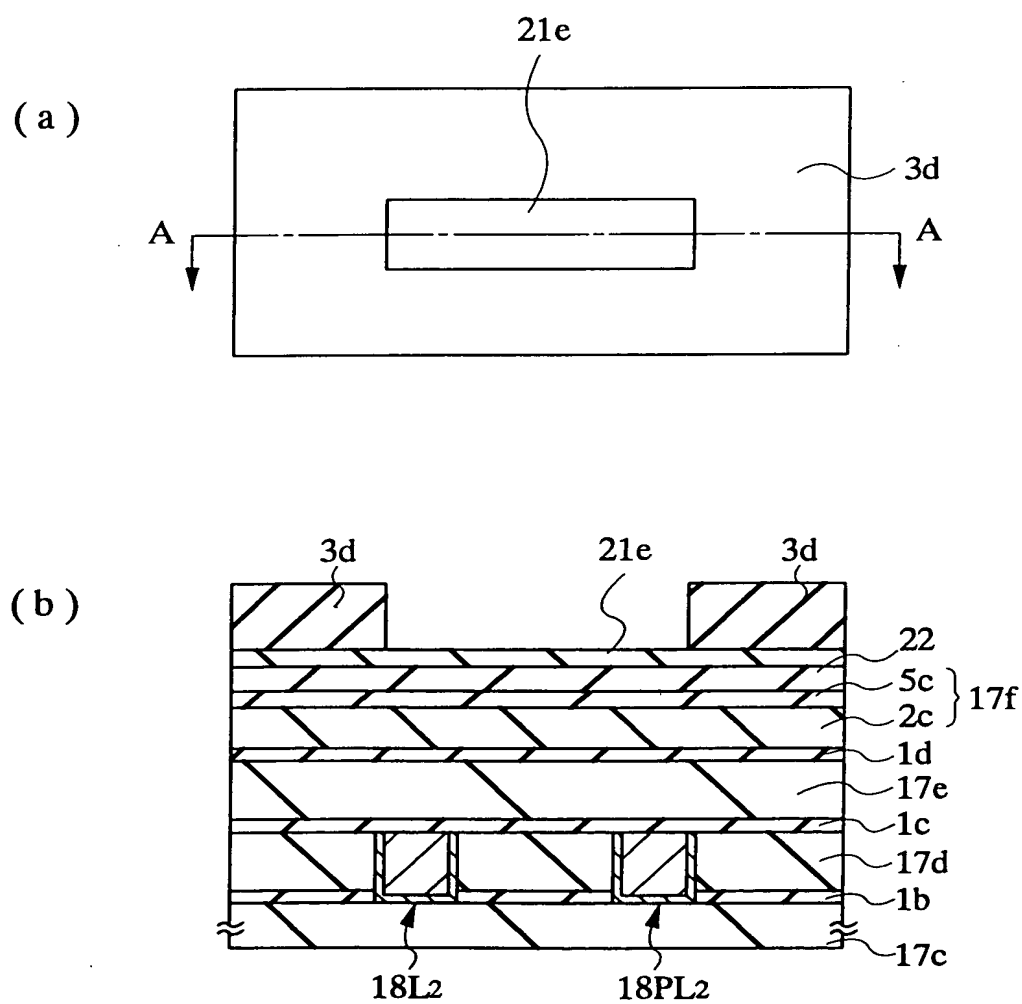
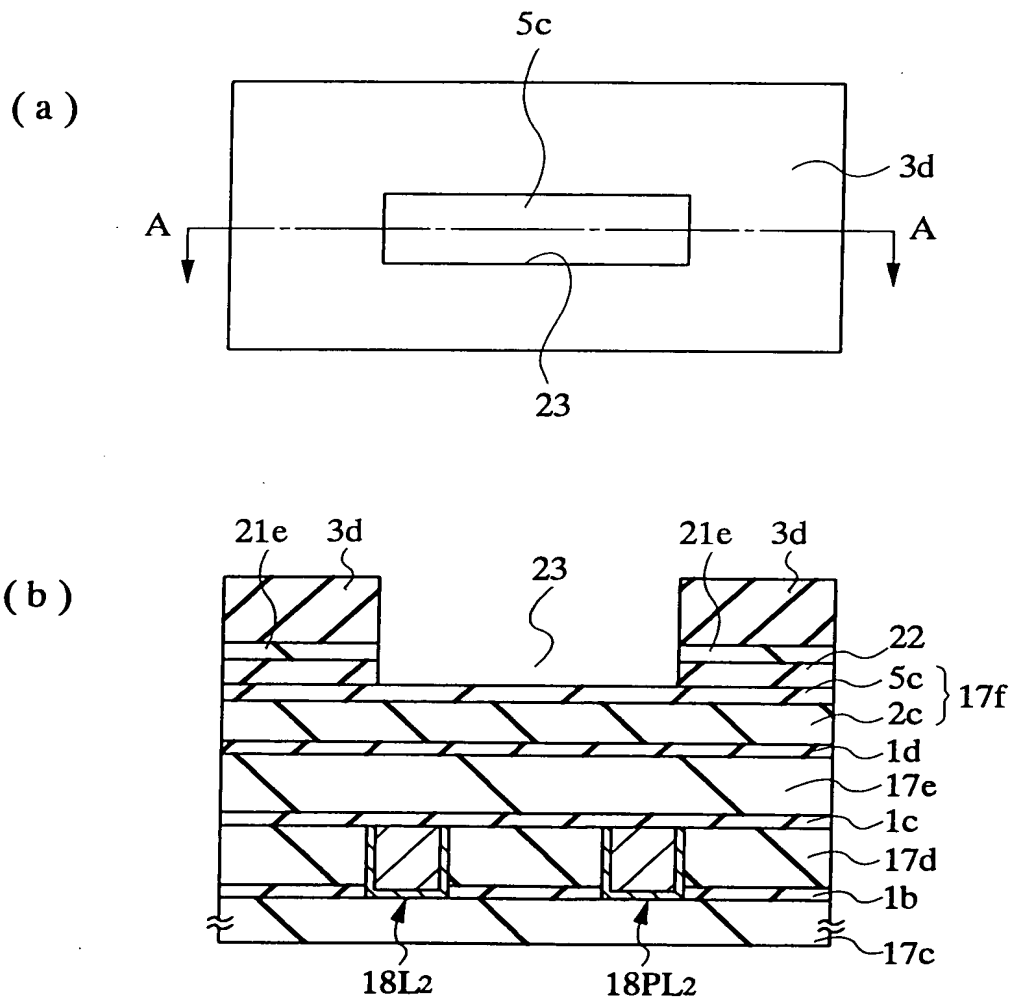


FIG. 44



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FIG. 45



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FIG. 46

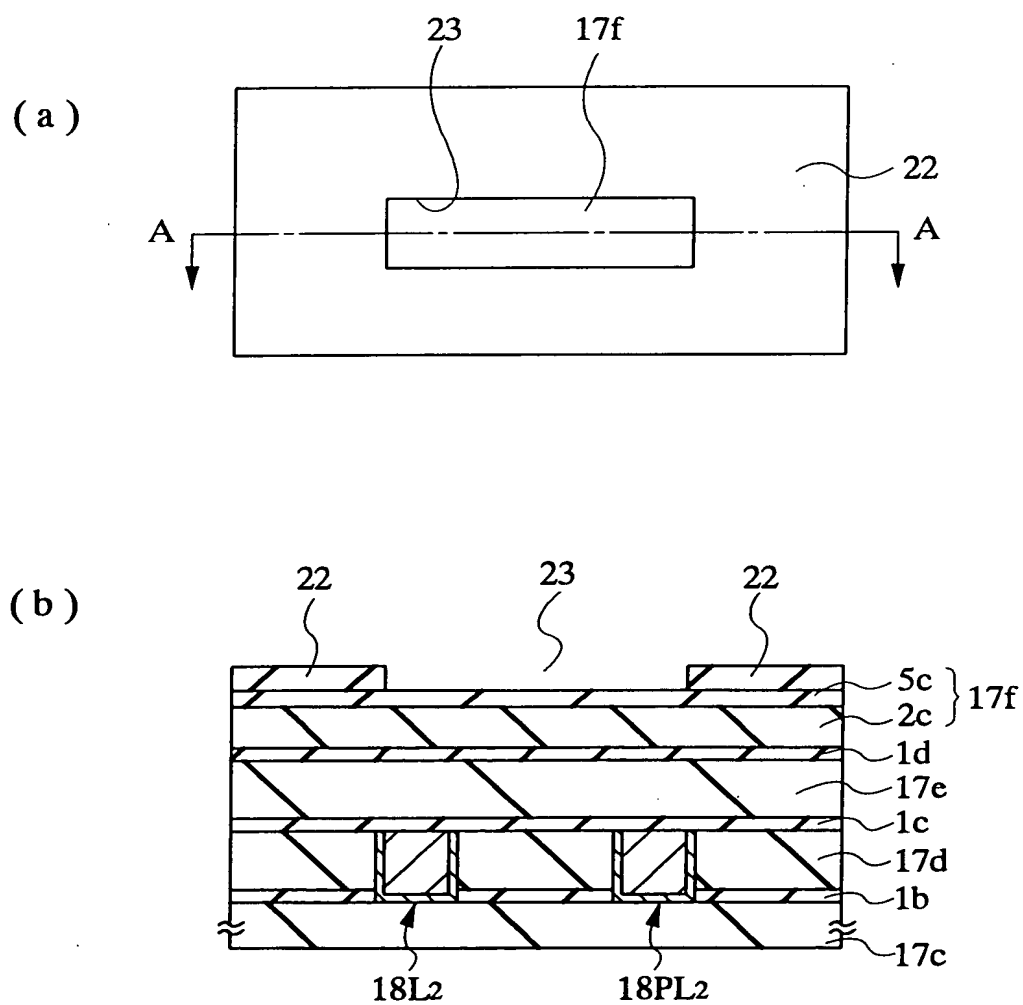


FIG. 47

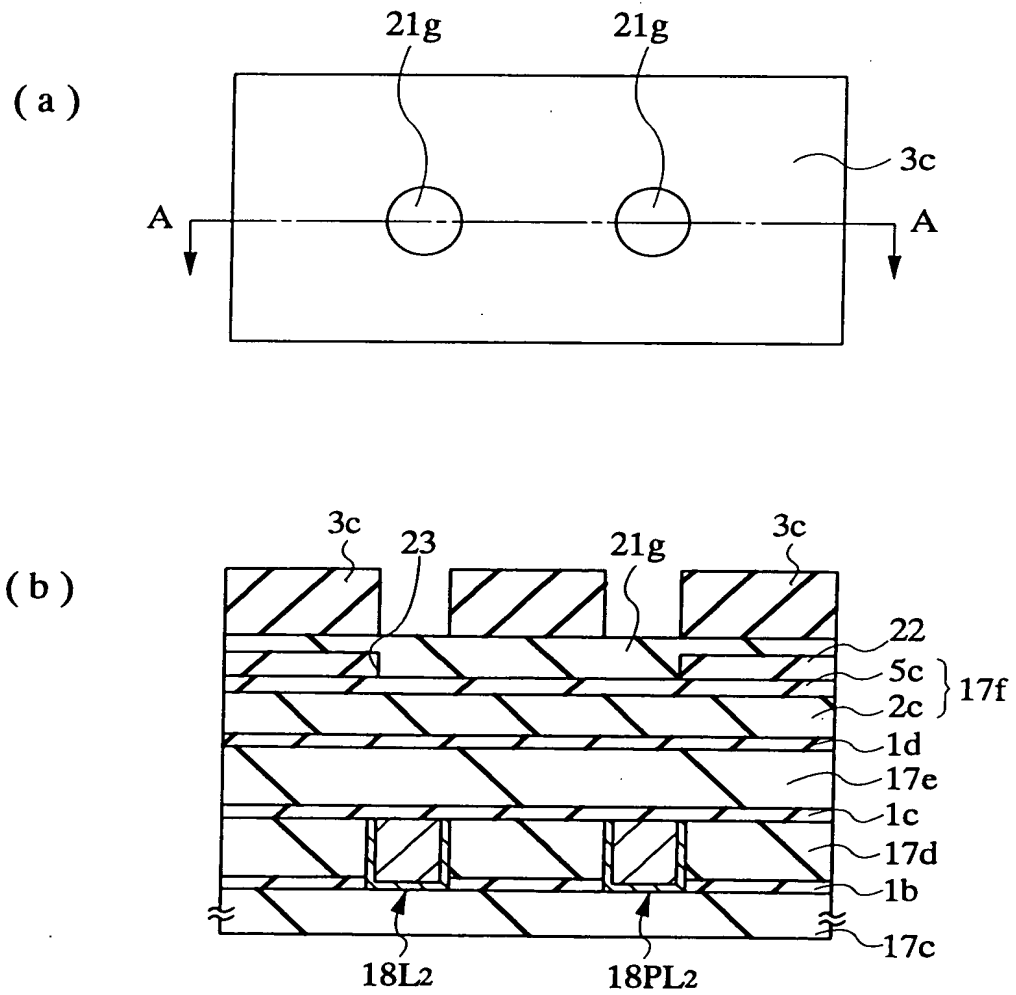
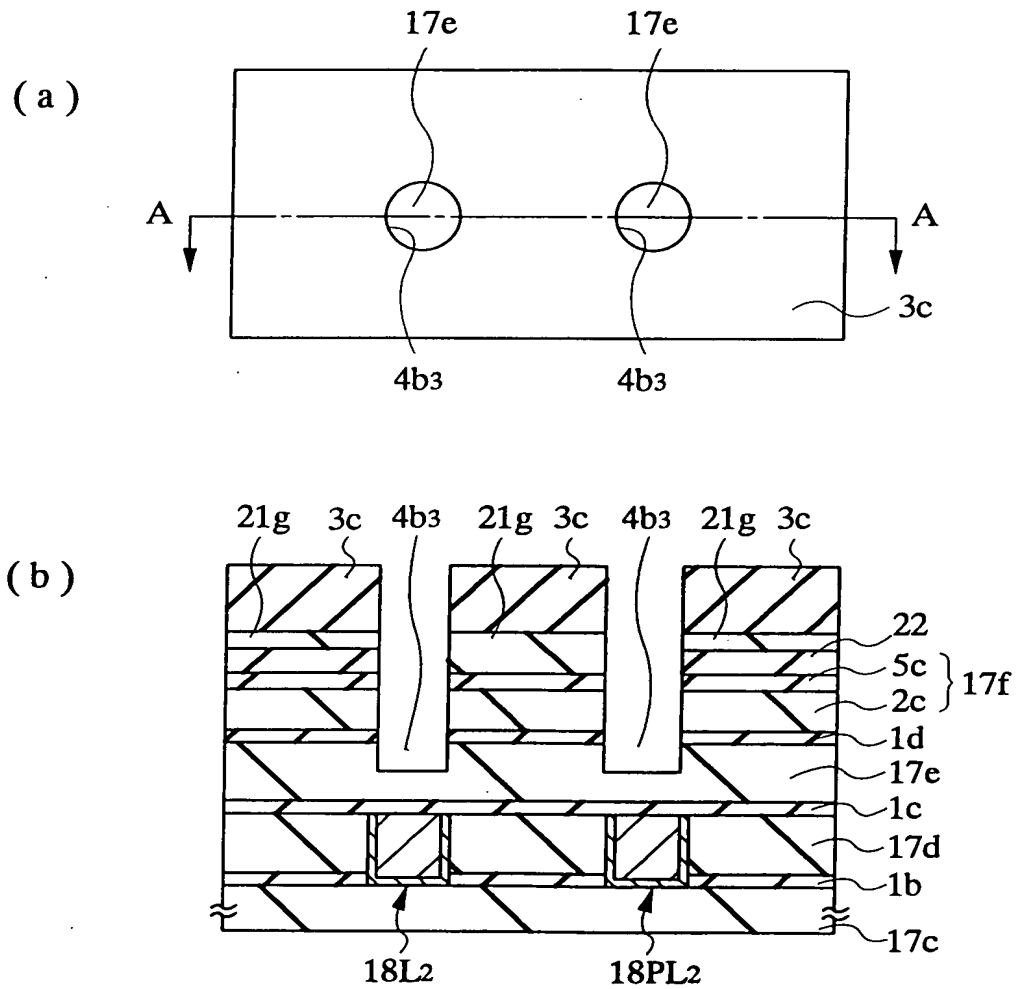


FIG. 48



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FIG. 49

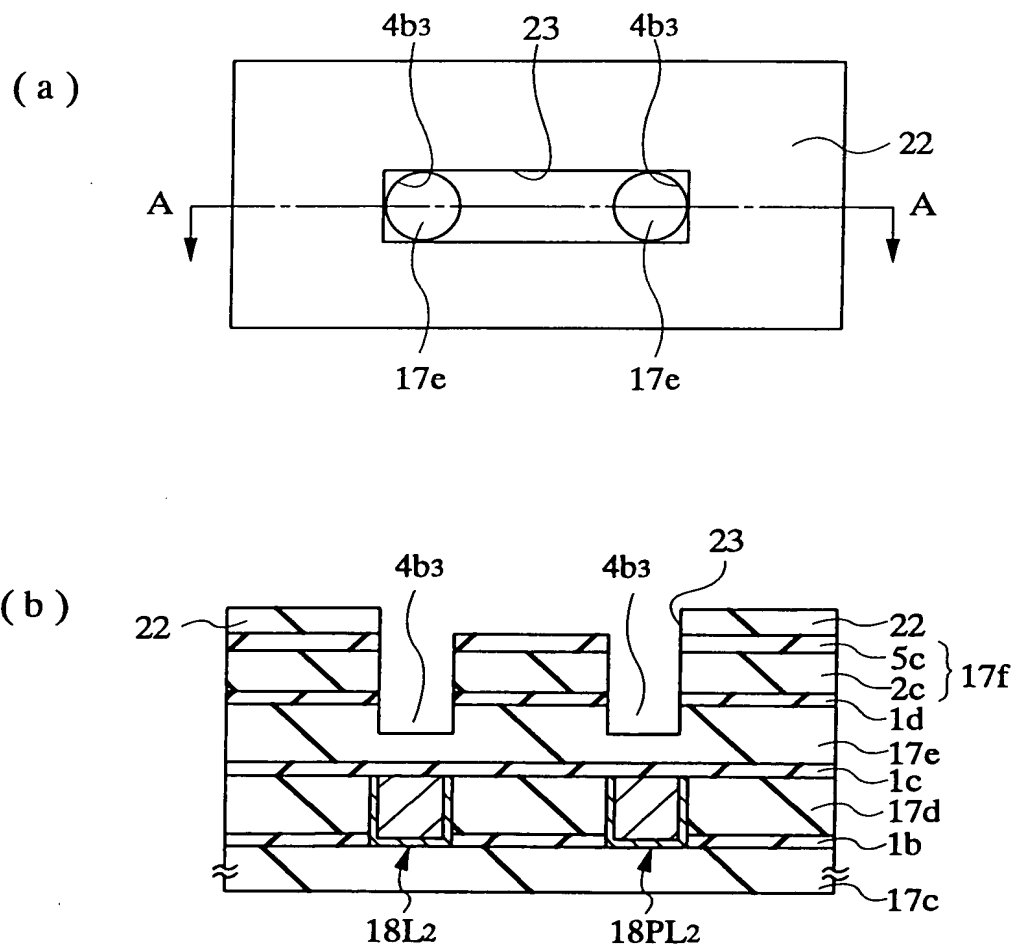
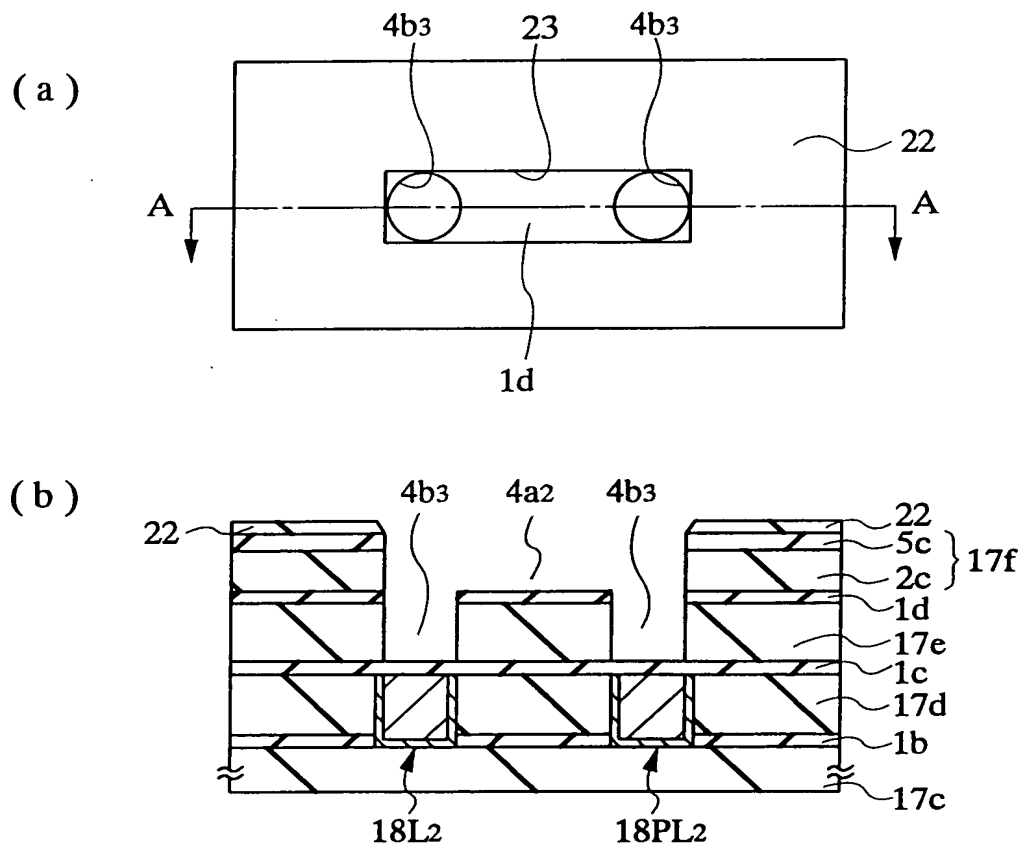


FIG. 50



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FIG. 51

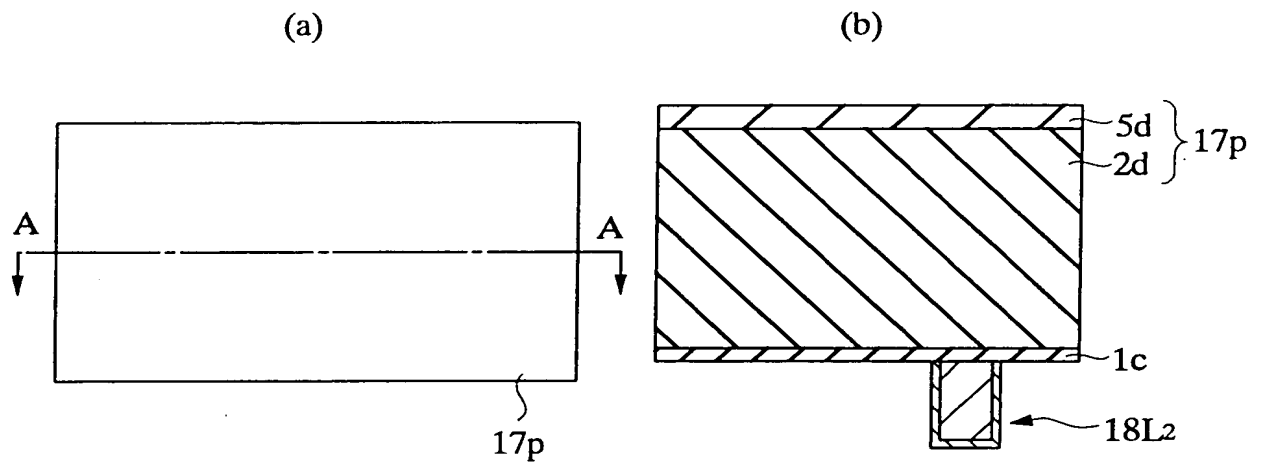
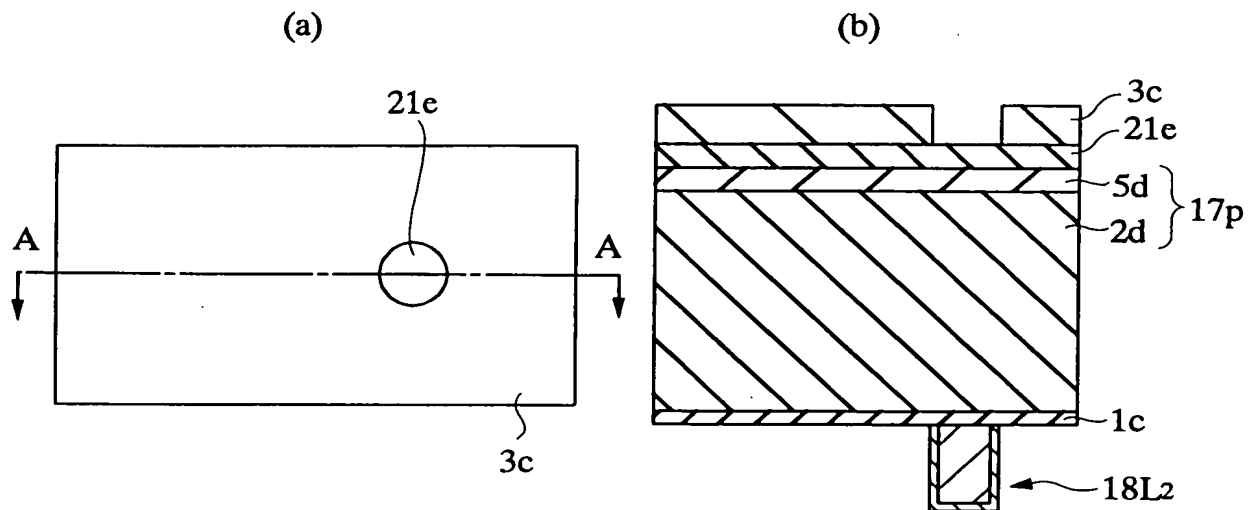


FIG. 52



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FIG. 53

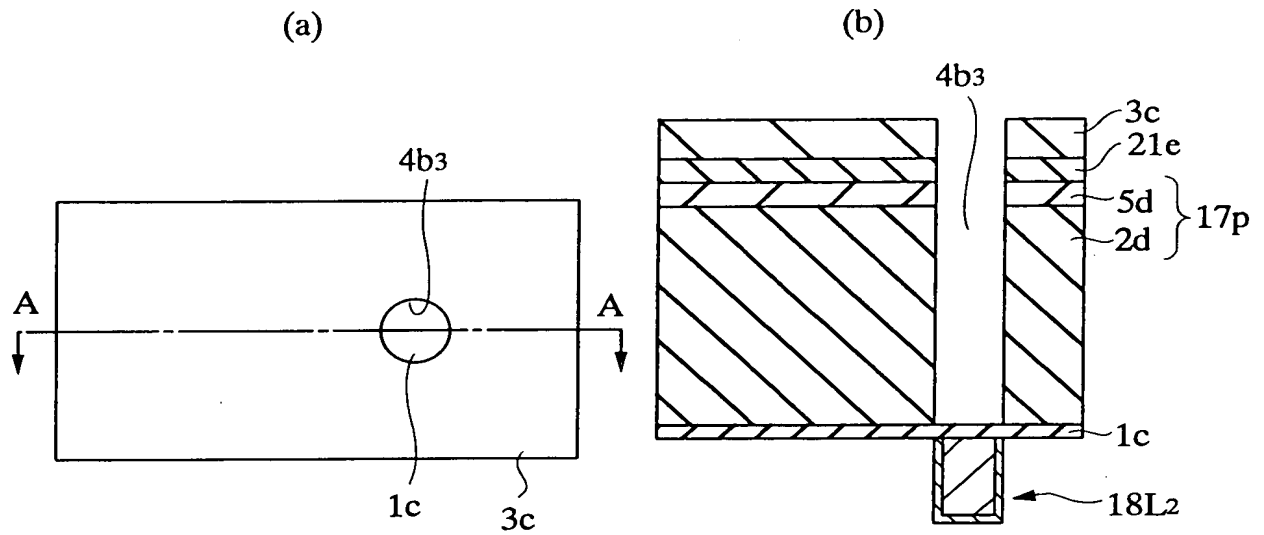


FIG. 54

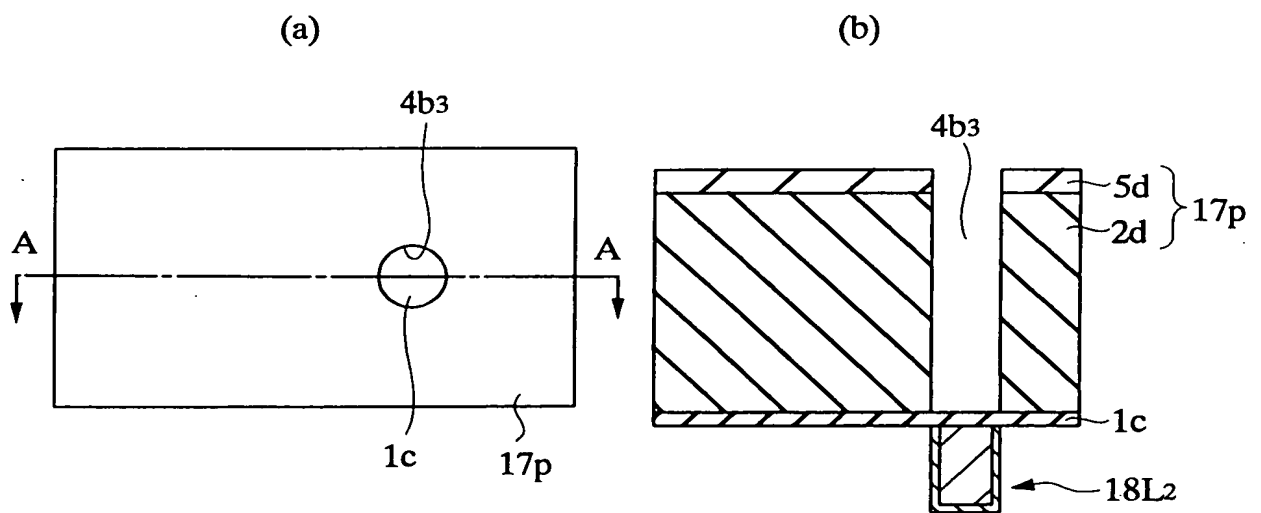


FIG. 55

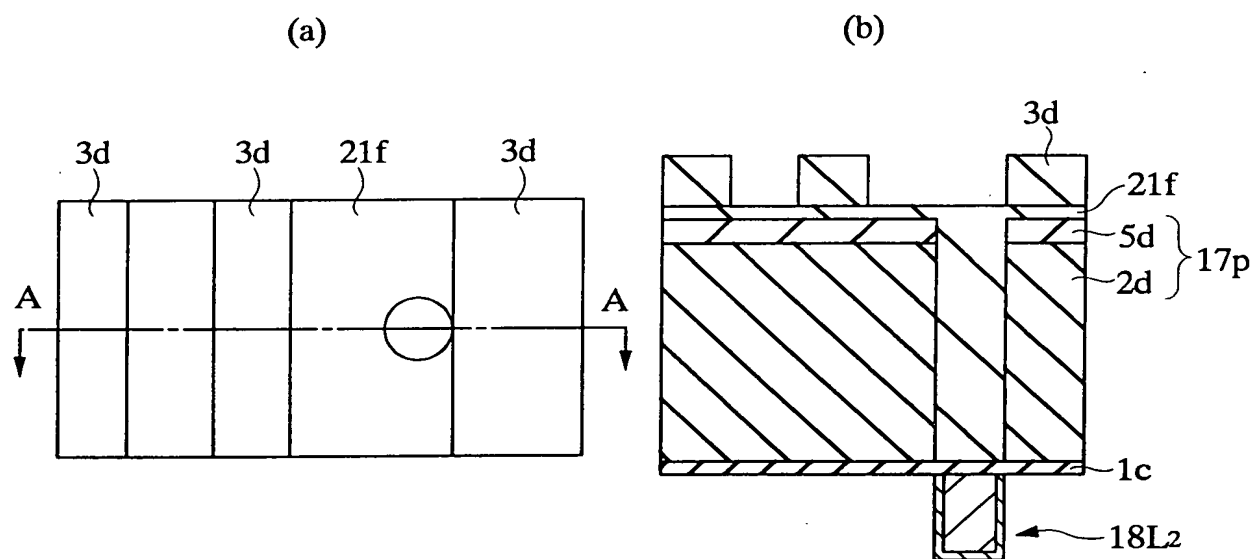


FIG. 56

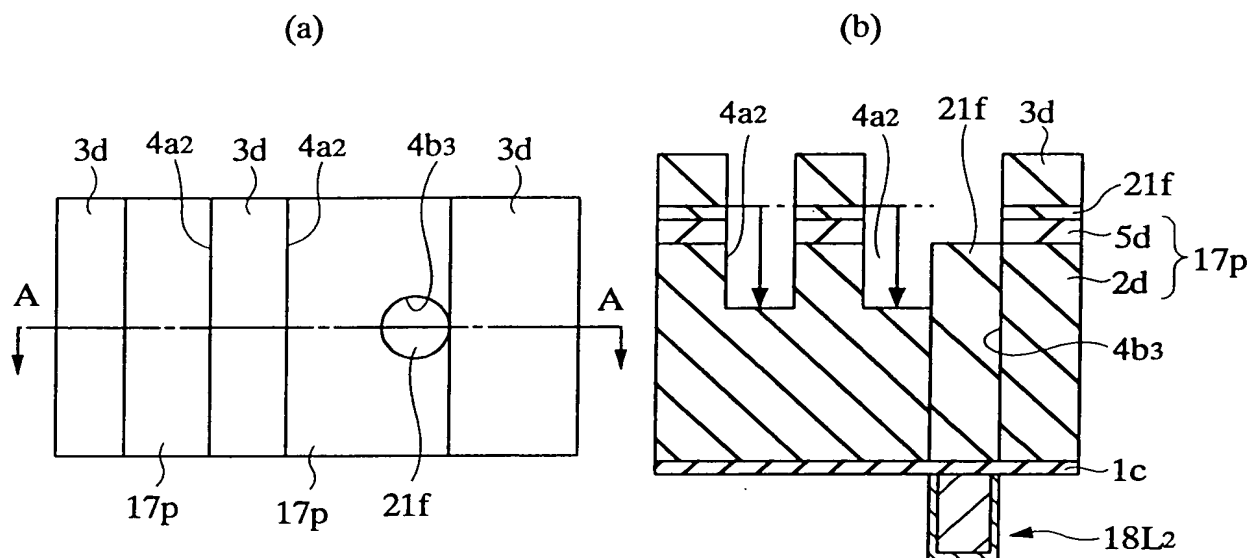


FIG. 57

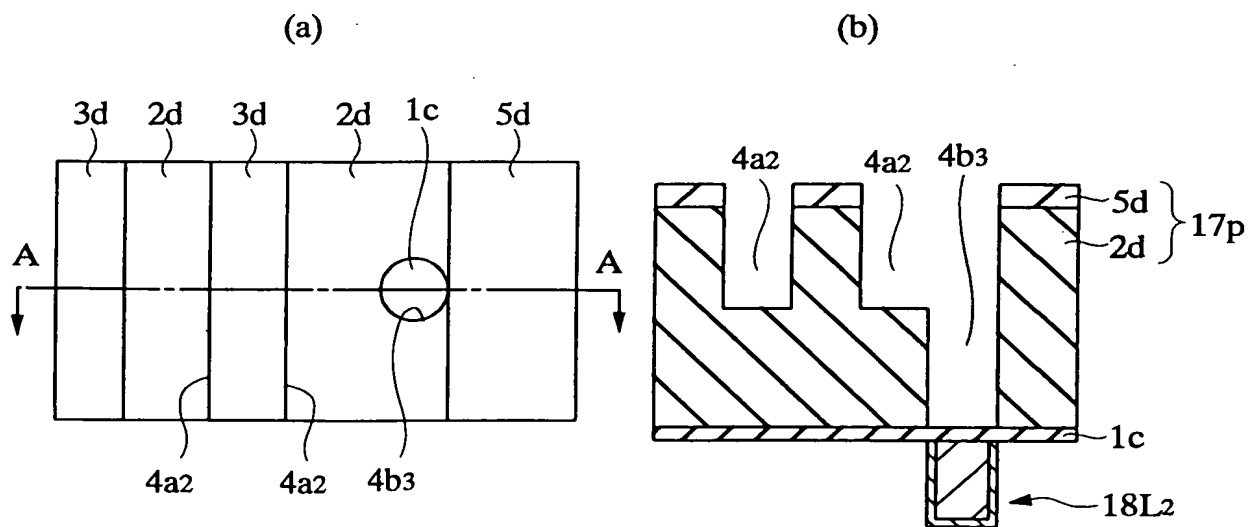


FIG. 58

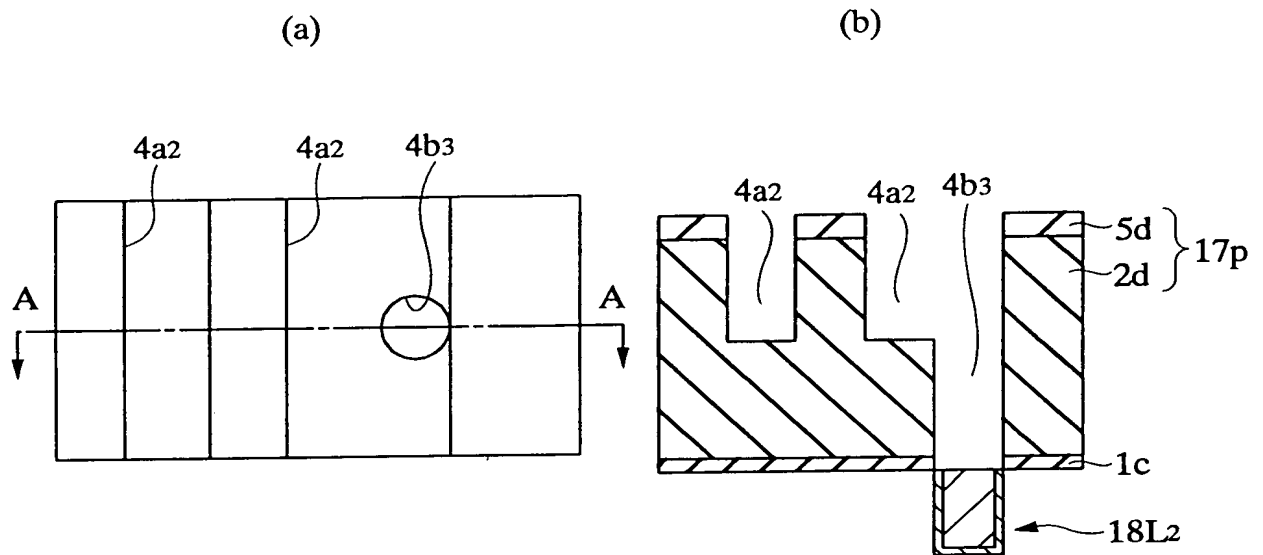


FIG. 59

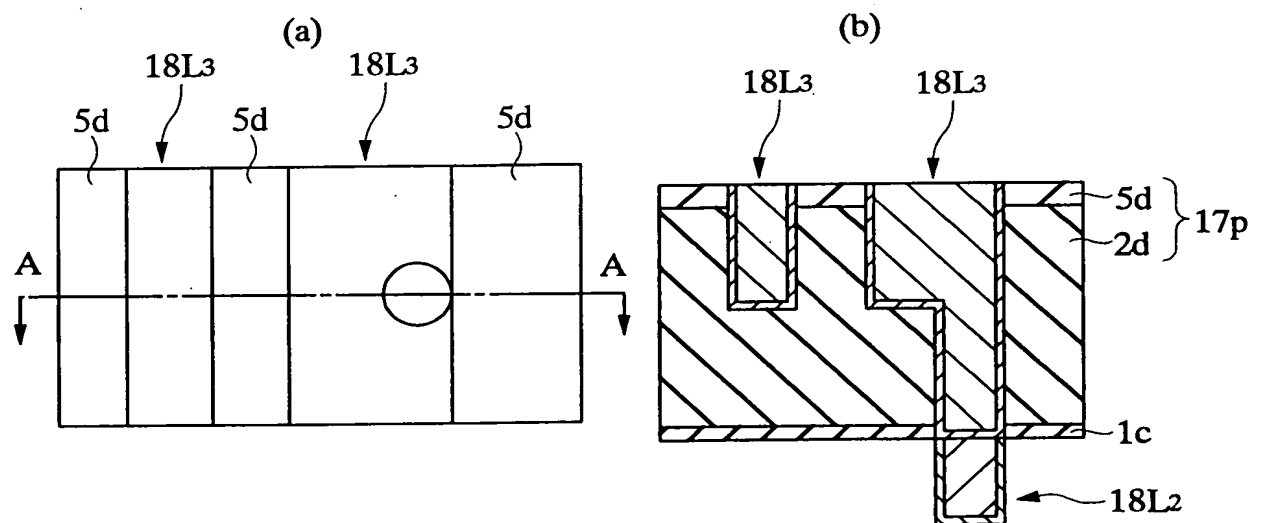
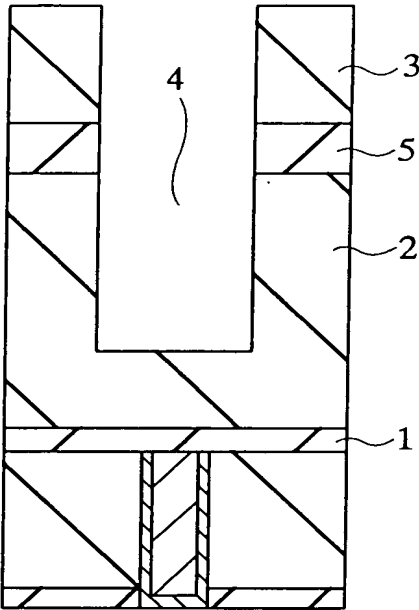


FIG. 60

	C <sub>4</sub> F <sub>8</sub> FLOW RATE > O <sub>2</sub> FLOW RATE	C <sub>4</sub> F <sub>8</sub> FLOW RATE ≤ O <sub>2</sub> FLOW RATE
SCHEMATIC CROSS-SECTIONAL VIEW		
FORM	○	× (HAVING A SIDE TRENCH)
SELECTIVITY TO SiN	× (NOT GREATER THAN 2)	○ (NOT GREATER THAN 5)
ETCHING APPARATUS	TOKYO ELECTRON IEM	
ETCHING GAS	C <sub>4</sub> F <sub>8</sub> /O <sub>2</sub> /Ar	
PRESSURE	2.5 mTorr	3.0 mTorr
HIGH-FREQUENCY POWER	500 / 200 W	2200 / 1400 W
STAGE TEMPERATURE	-20 °C	

FIG. 61

(a)



(b)

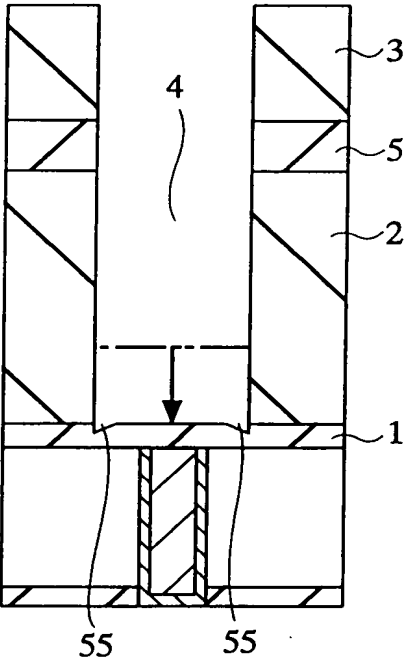
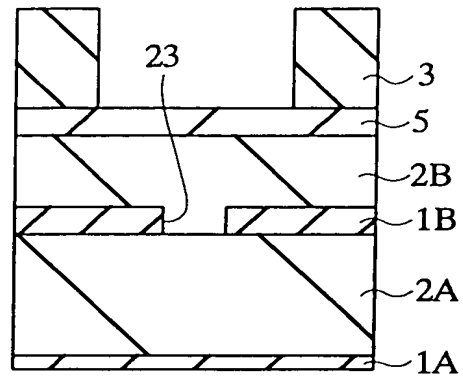
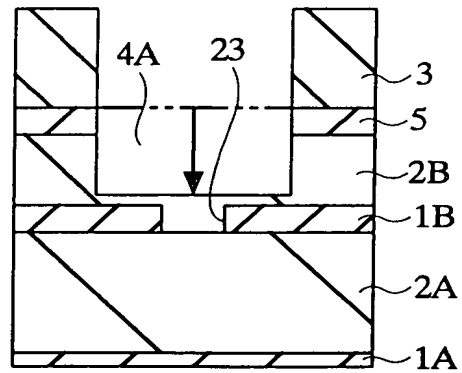


FIG. 62

(a)



(b)



(c)

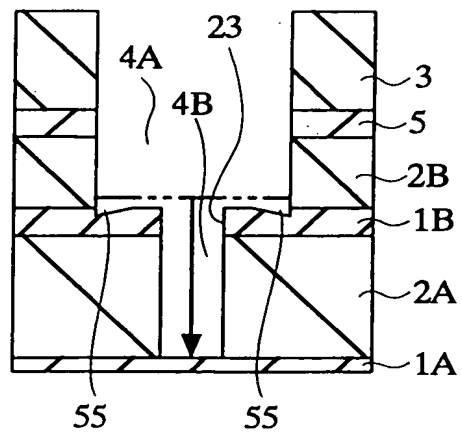


FIG. 63

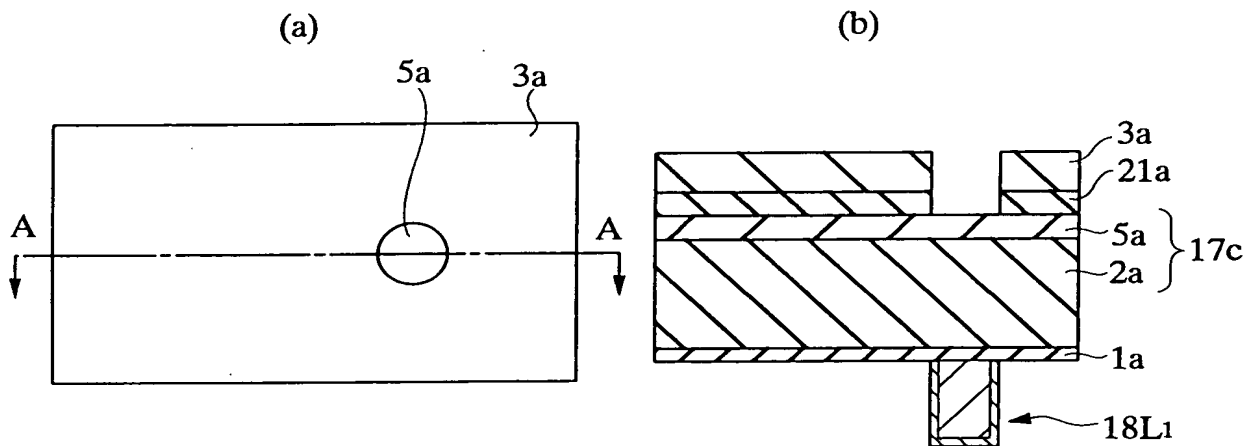


FIG. 64

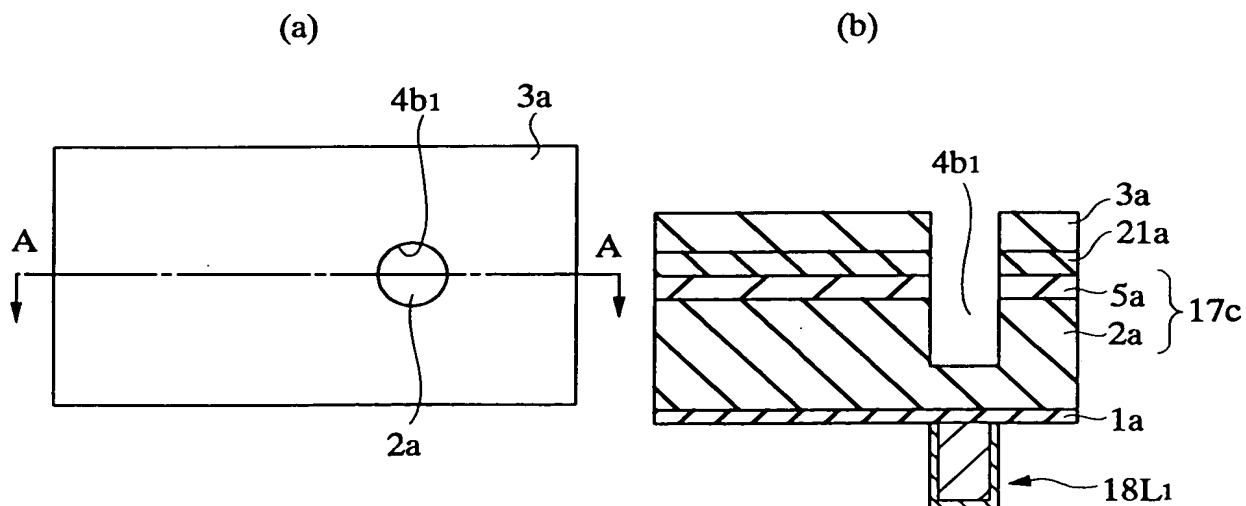


FIG. 65

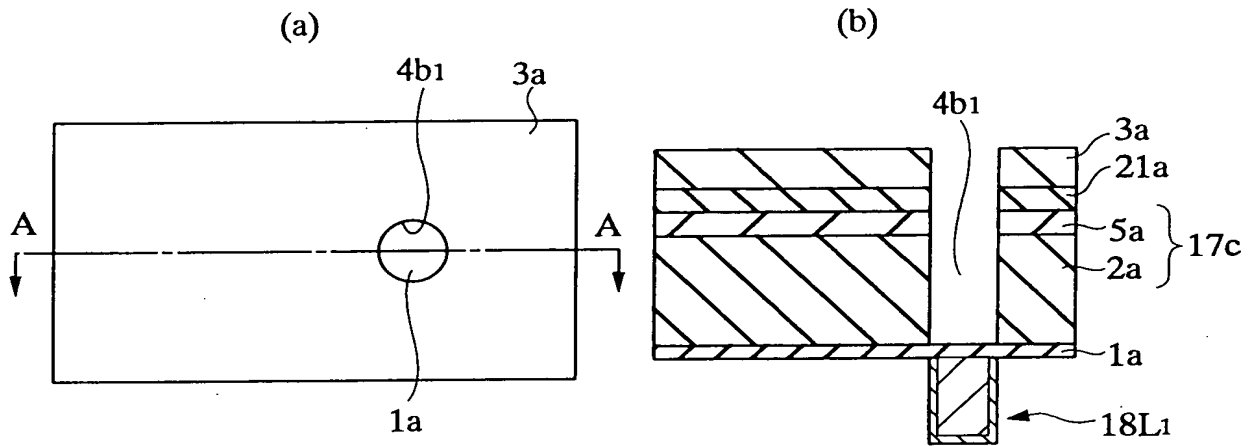


FIG. 66

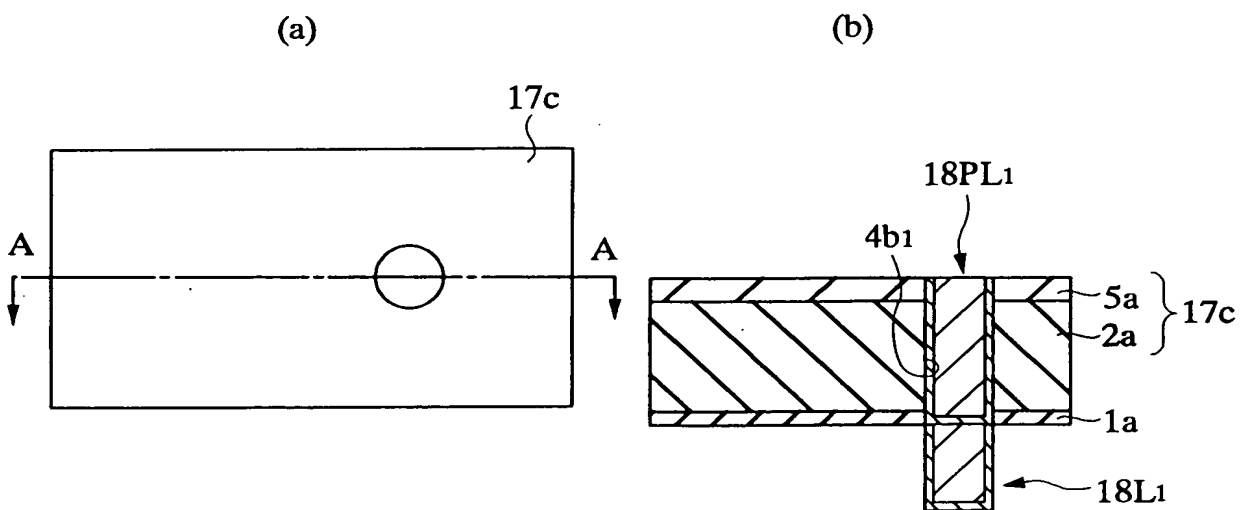


FIG. 67

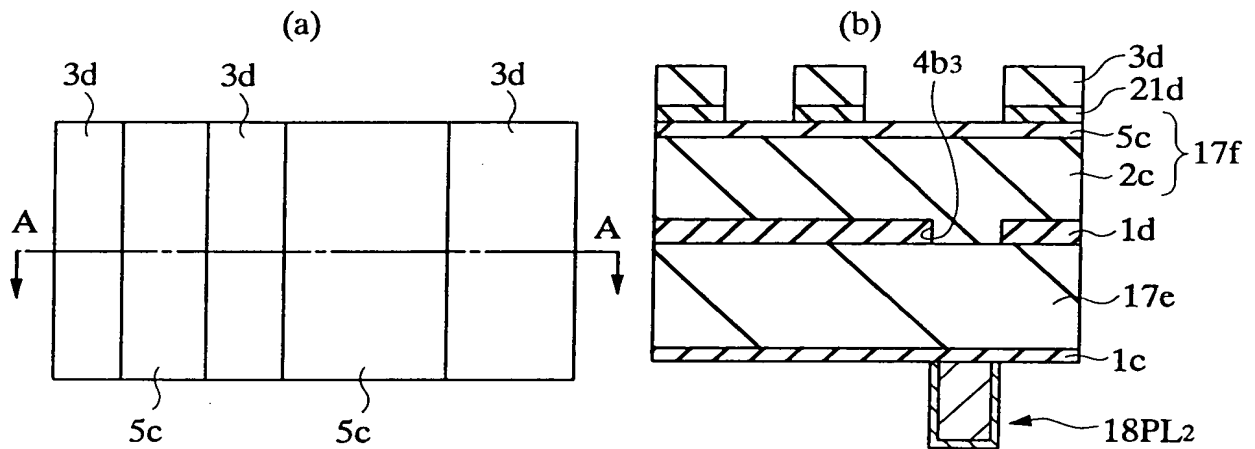


FIG. 68

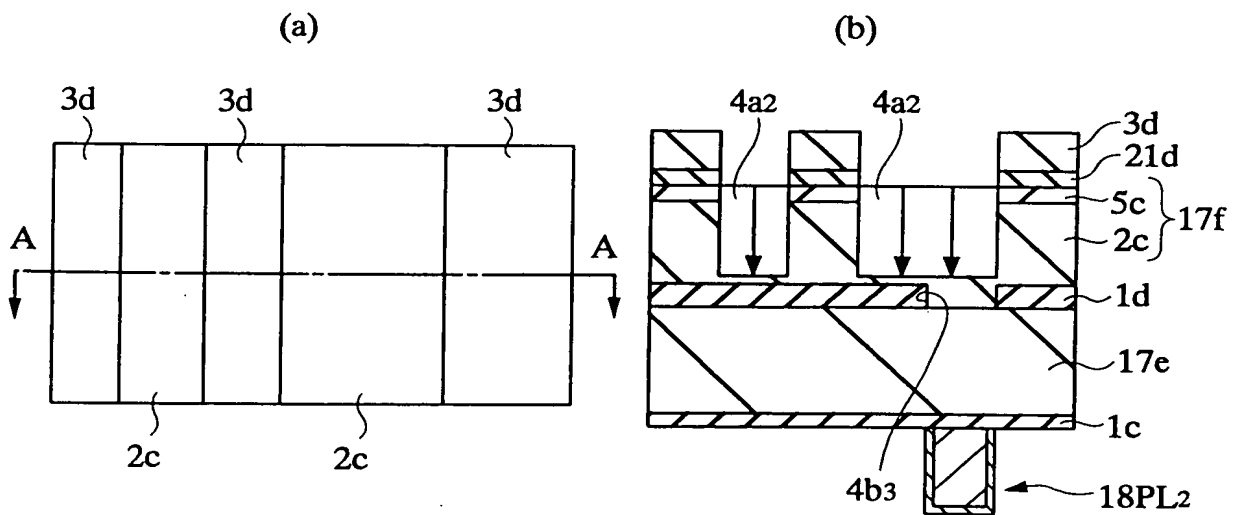


FIG. 69

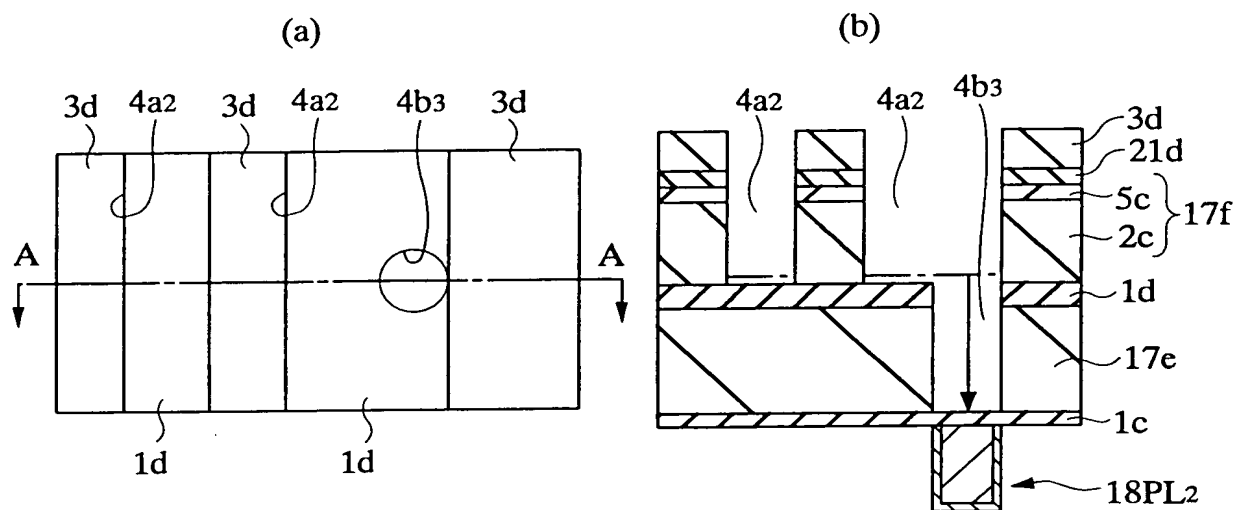


FIG. 70

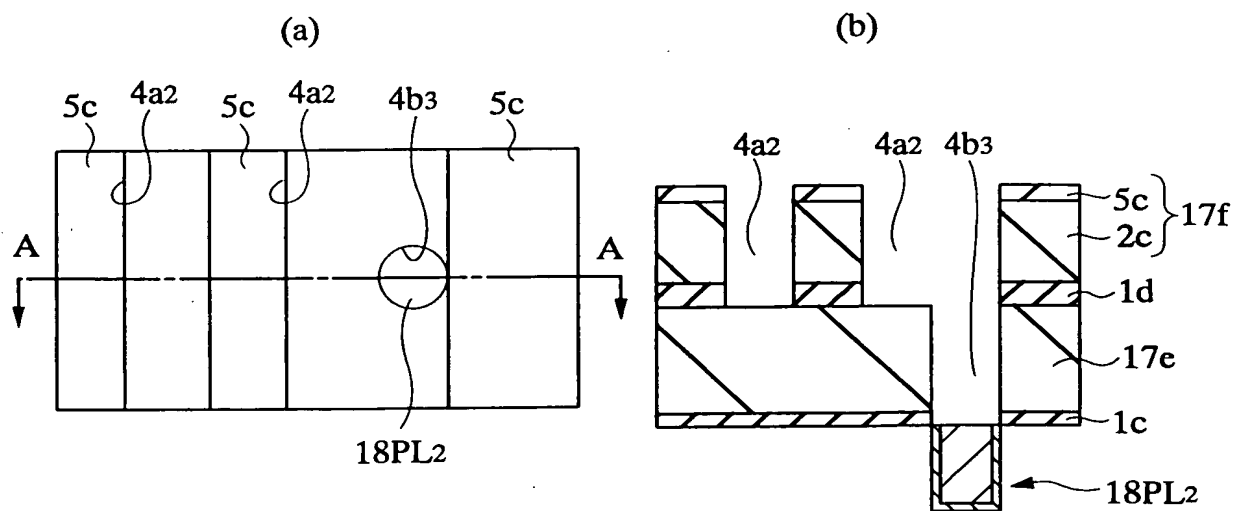


FIG. 71

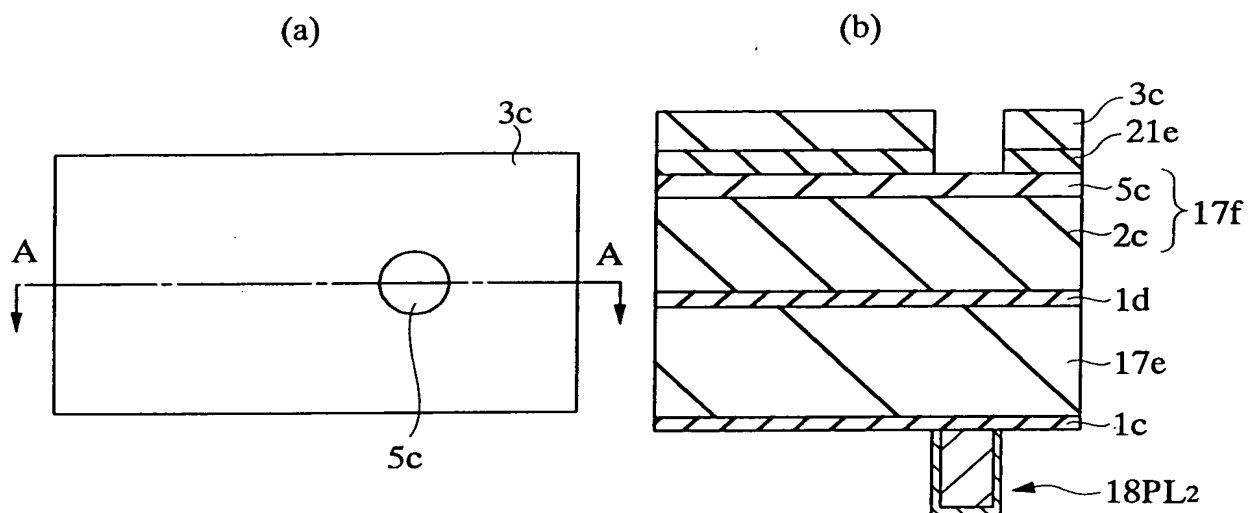


FIG. 72

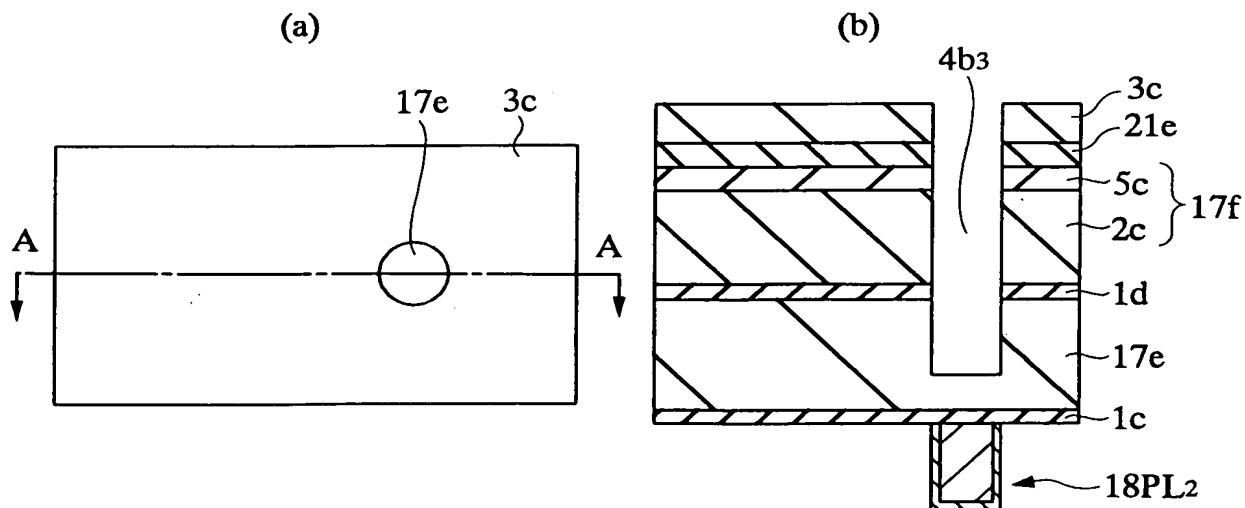


FIG. 73

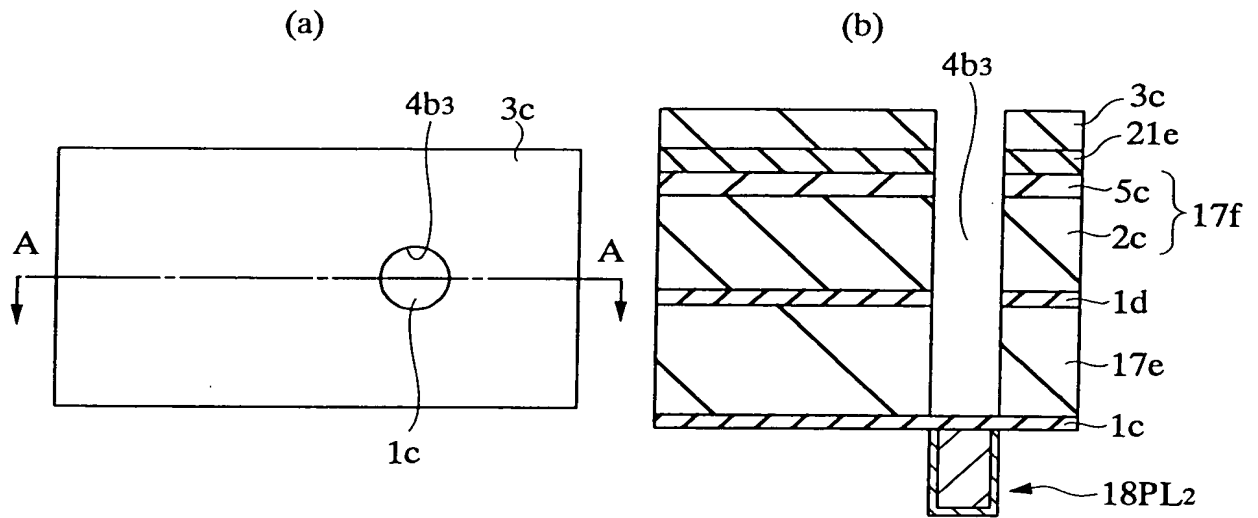
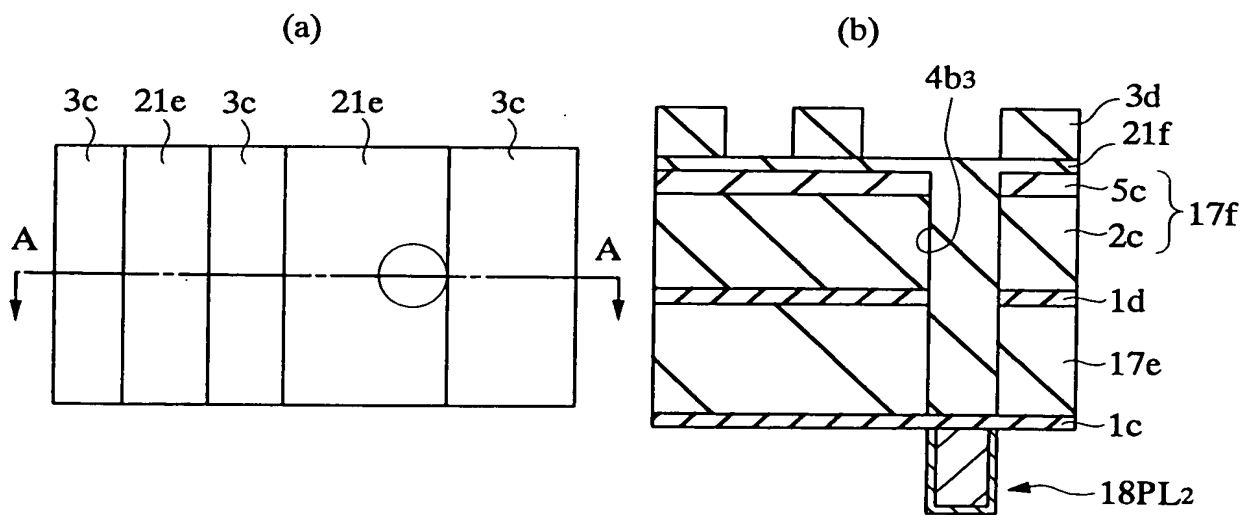


FIG. 74



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FIG. 75

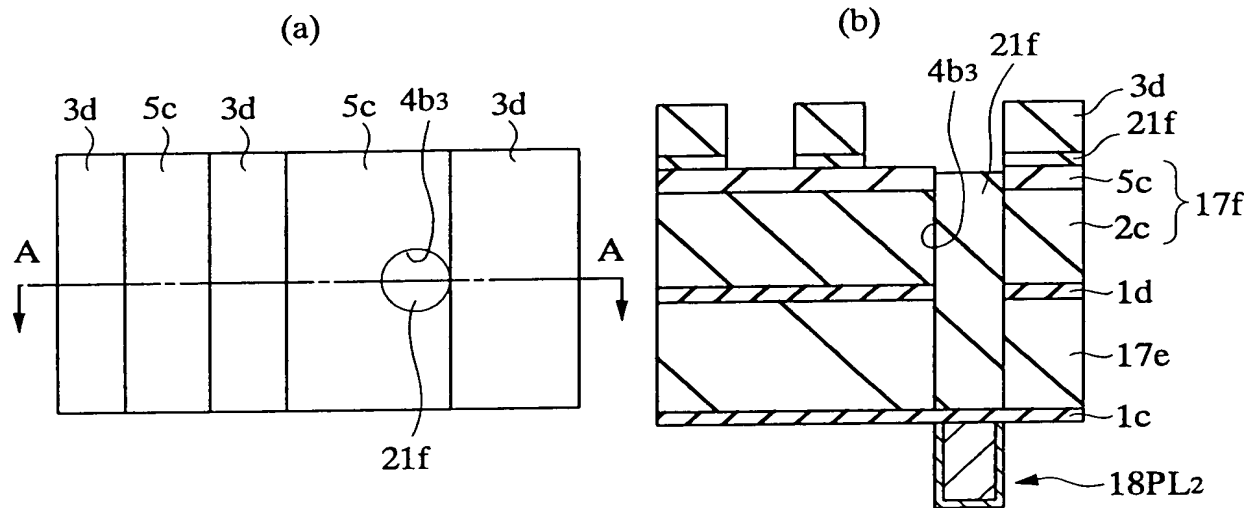
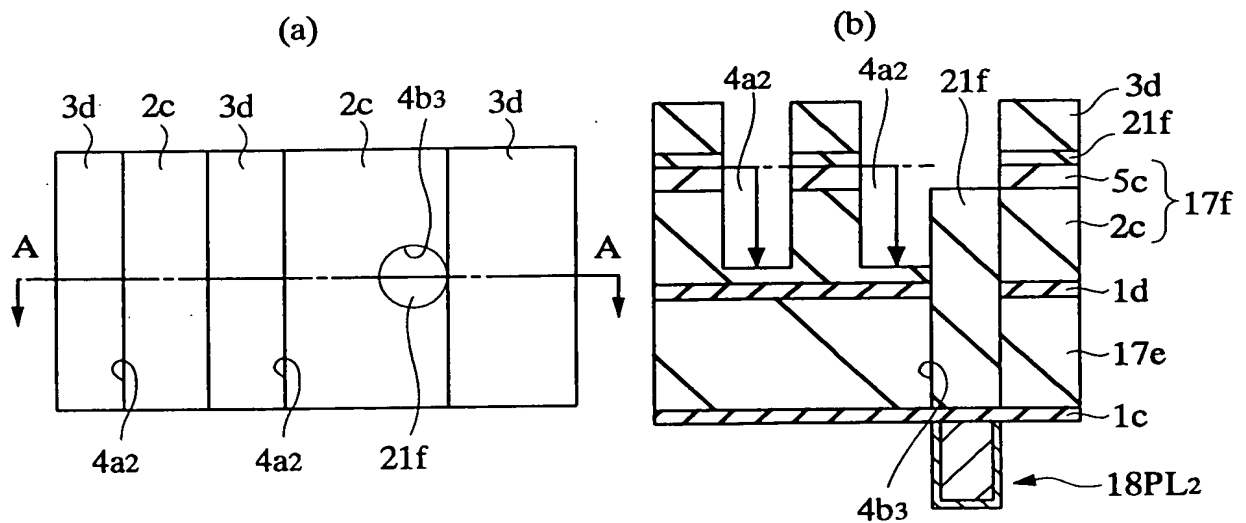


FIG. 76



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FIG. 77

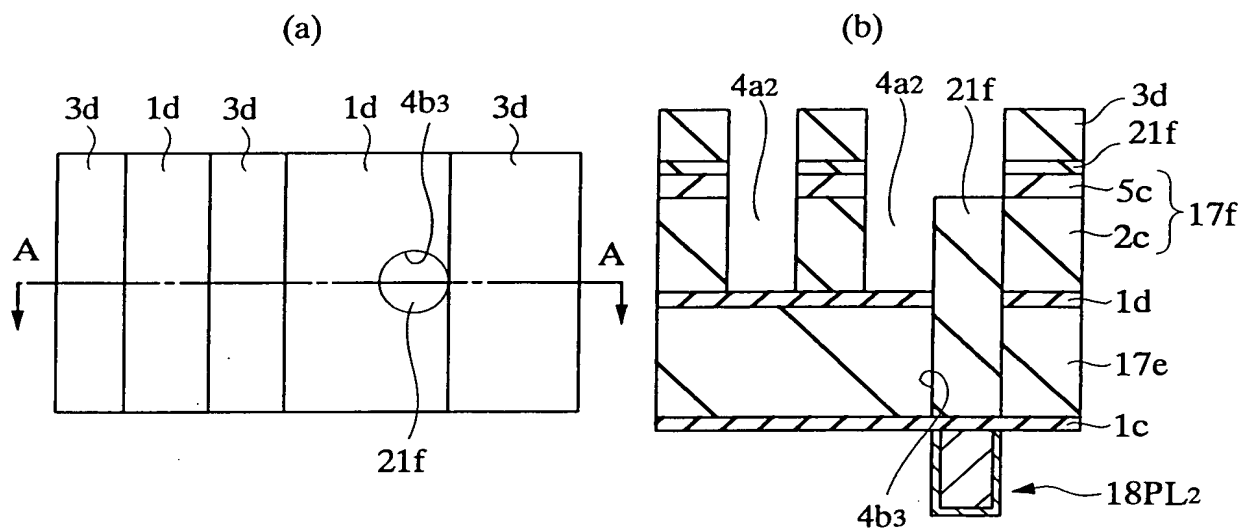


FIG. 78

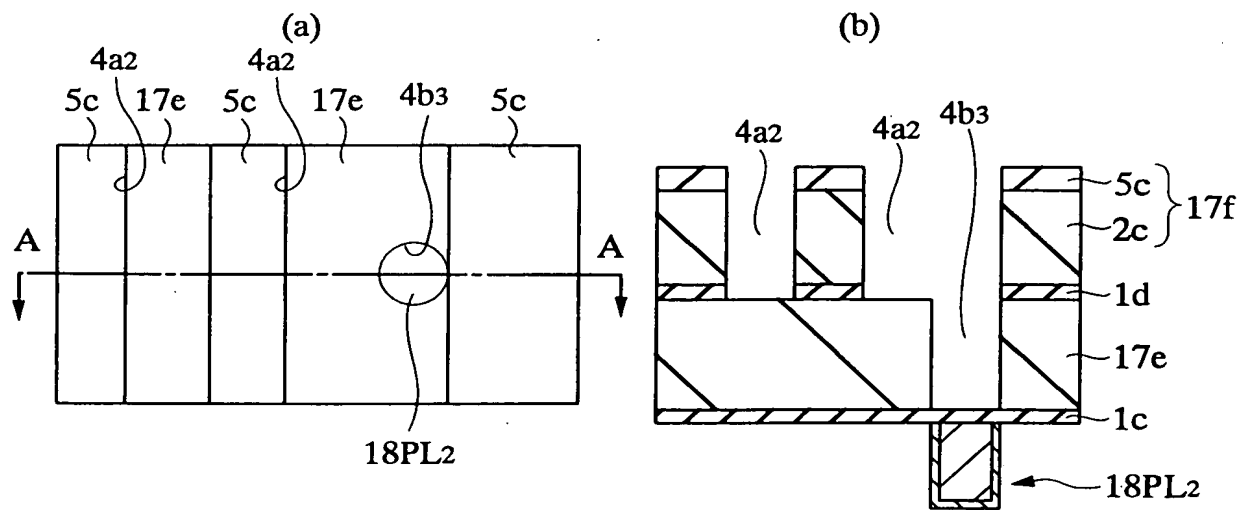


FIG. 79

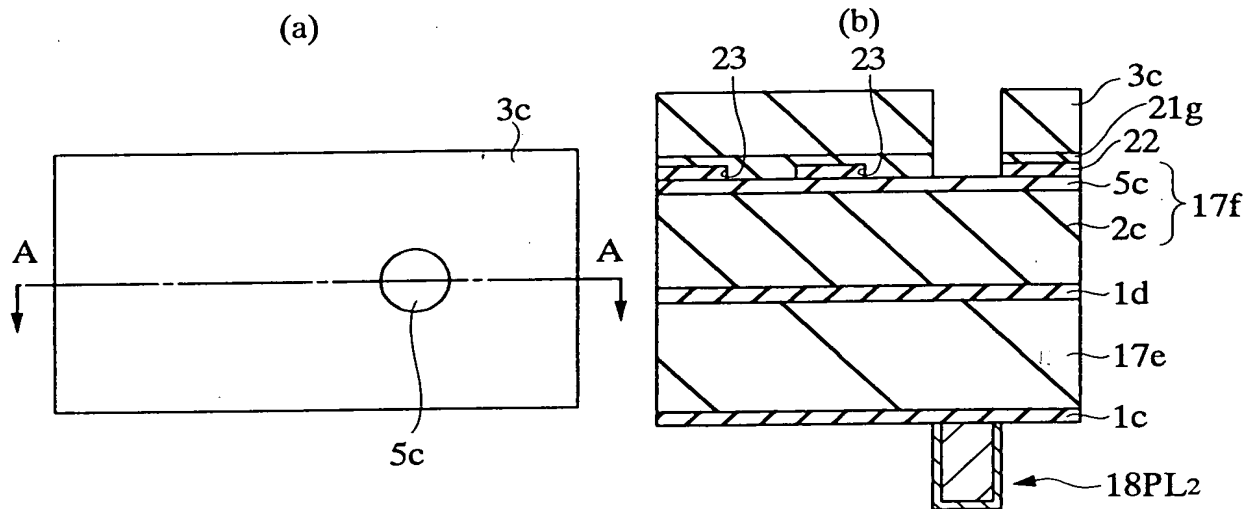


FIG. 80

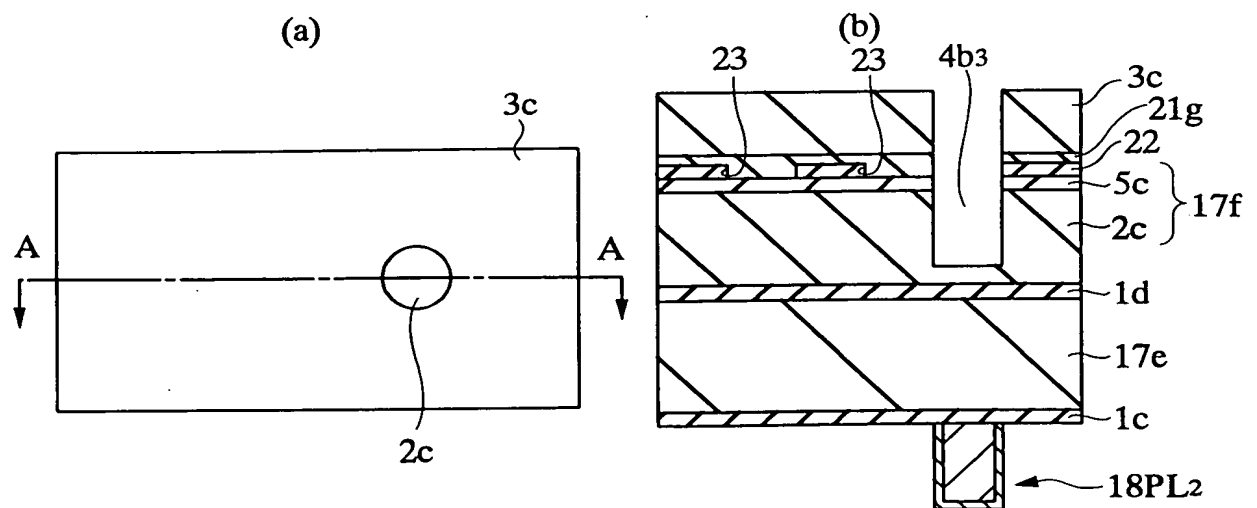


FIG. 81

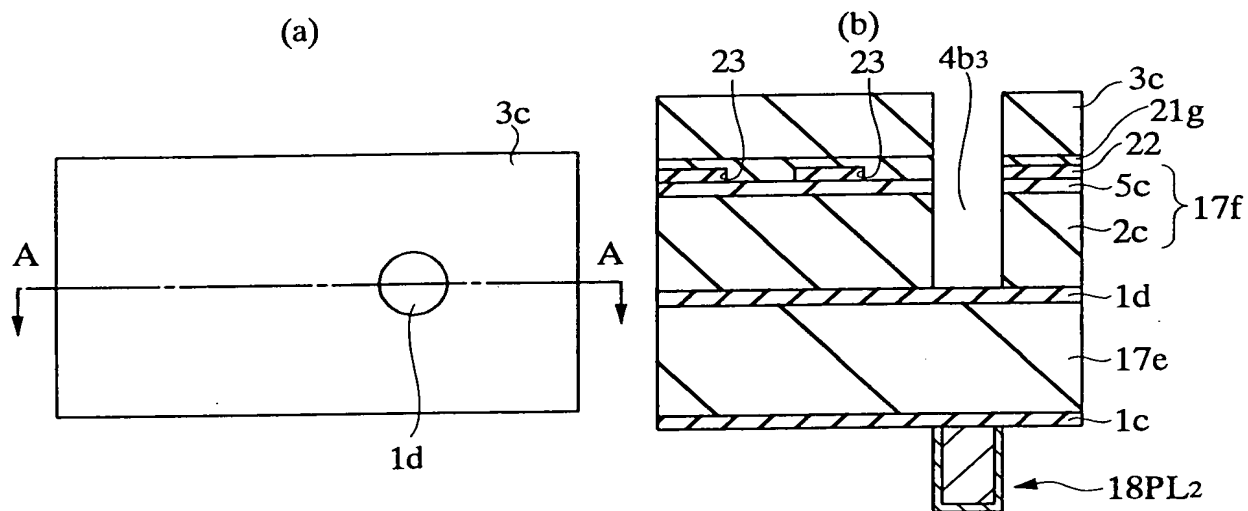
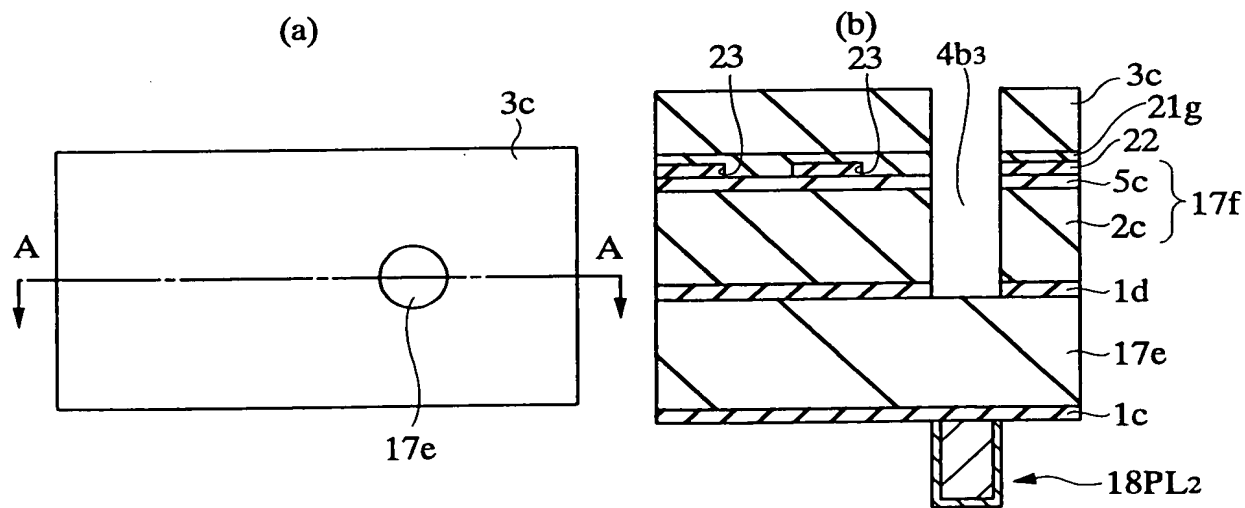


FIG. 82



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FIG. 83

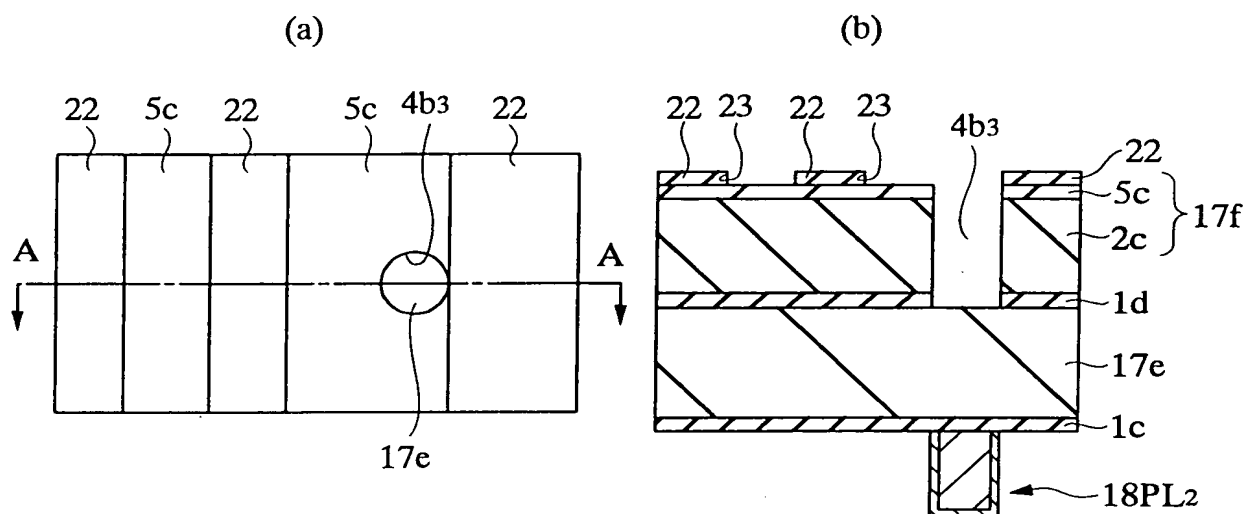


FIG. 84

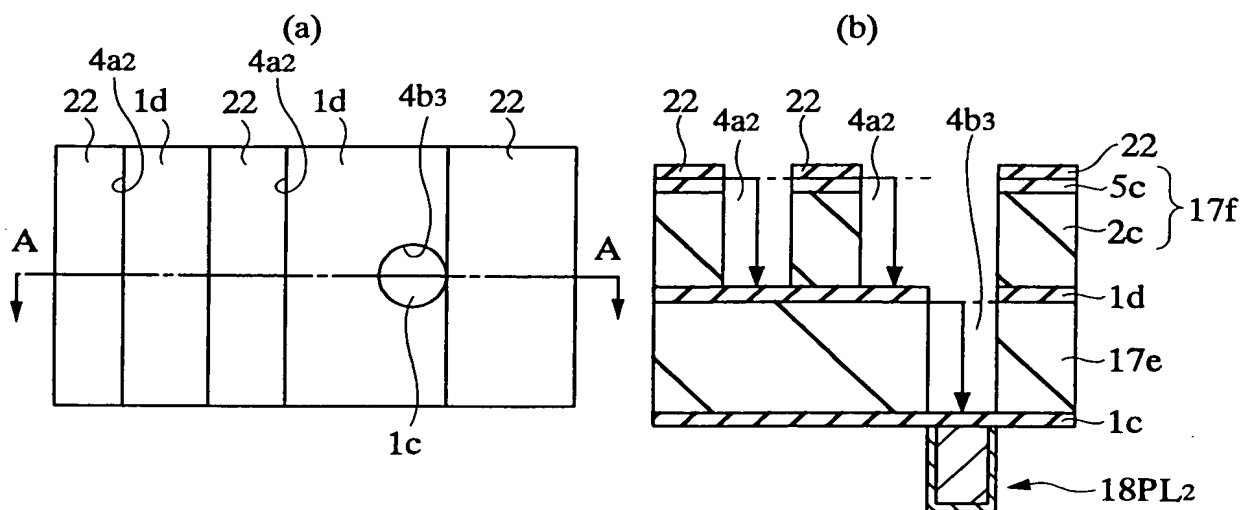


FIG. 85

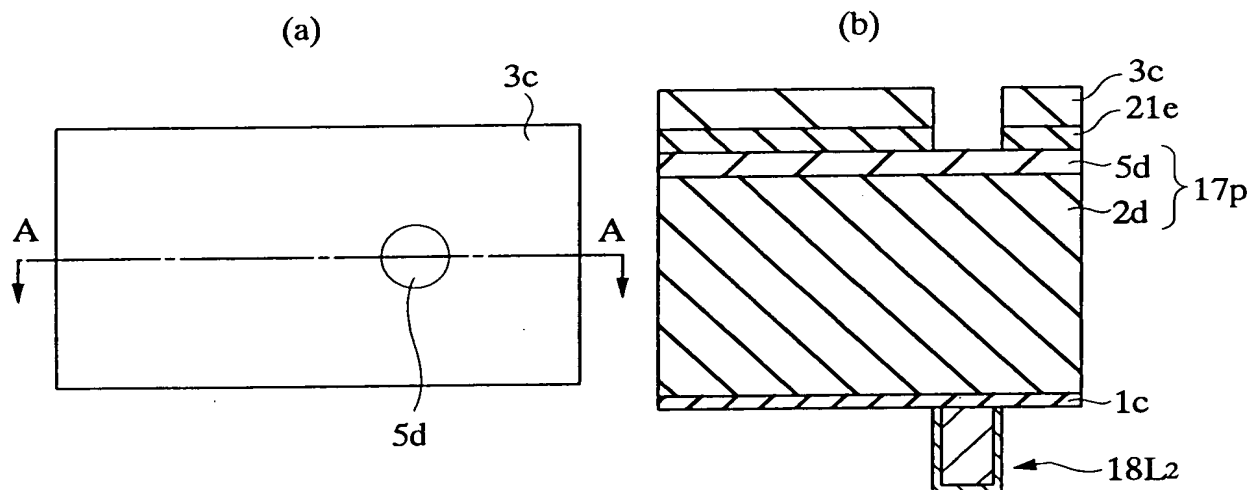


FIG. 86

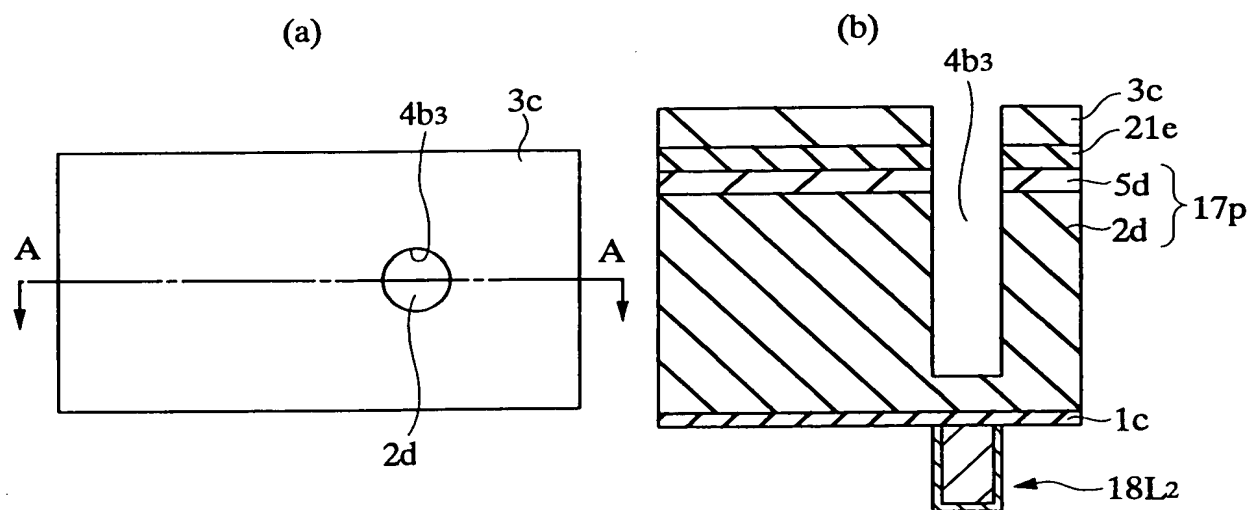


FIG. 87

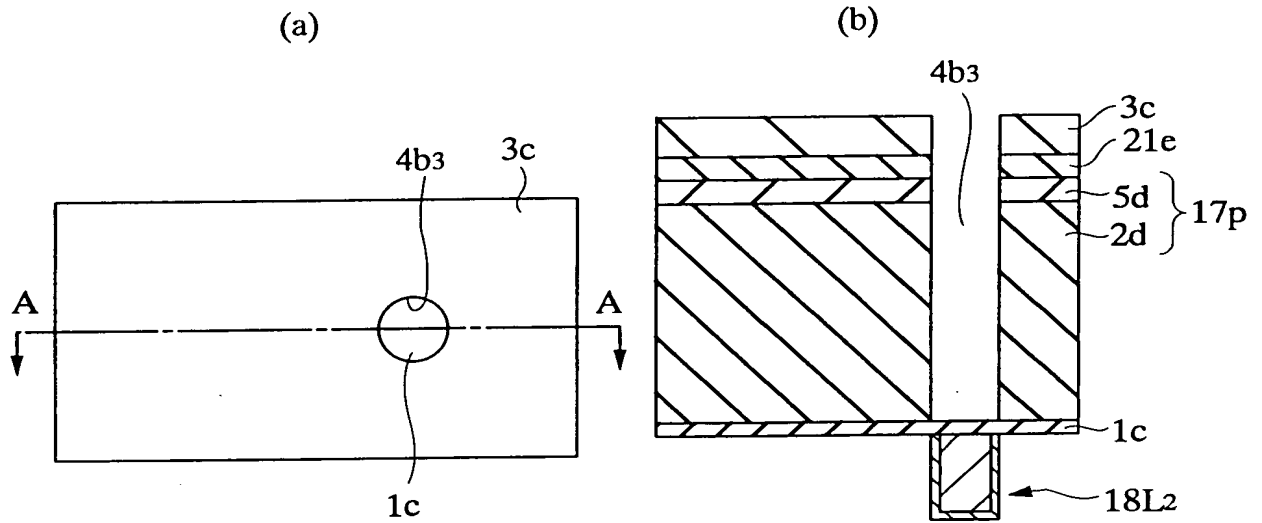


FIG. 88

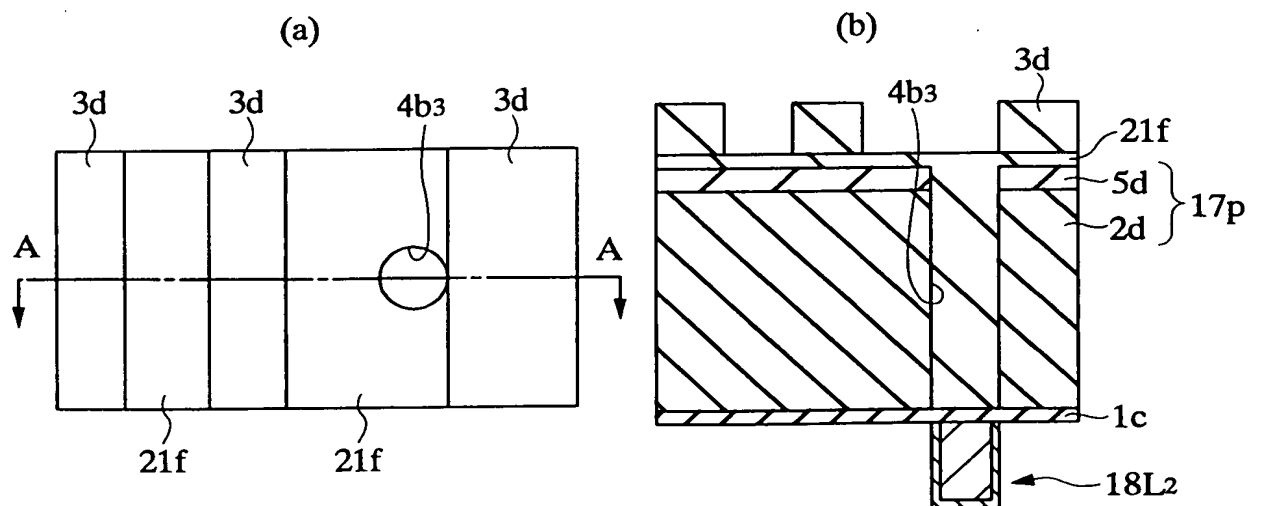


FIG. 89

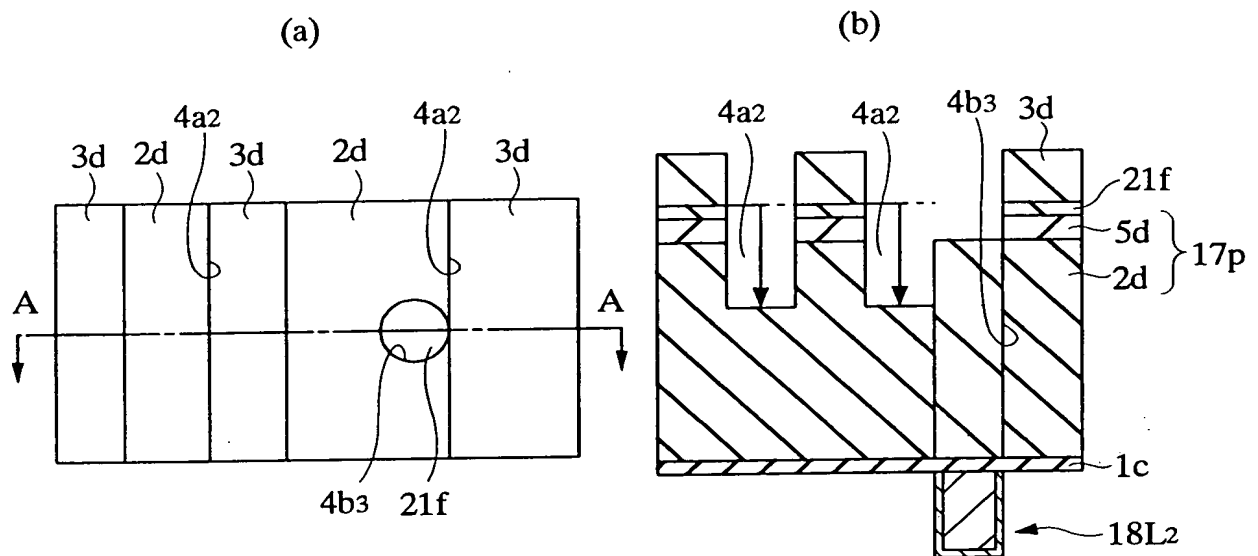
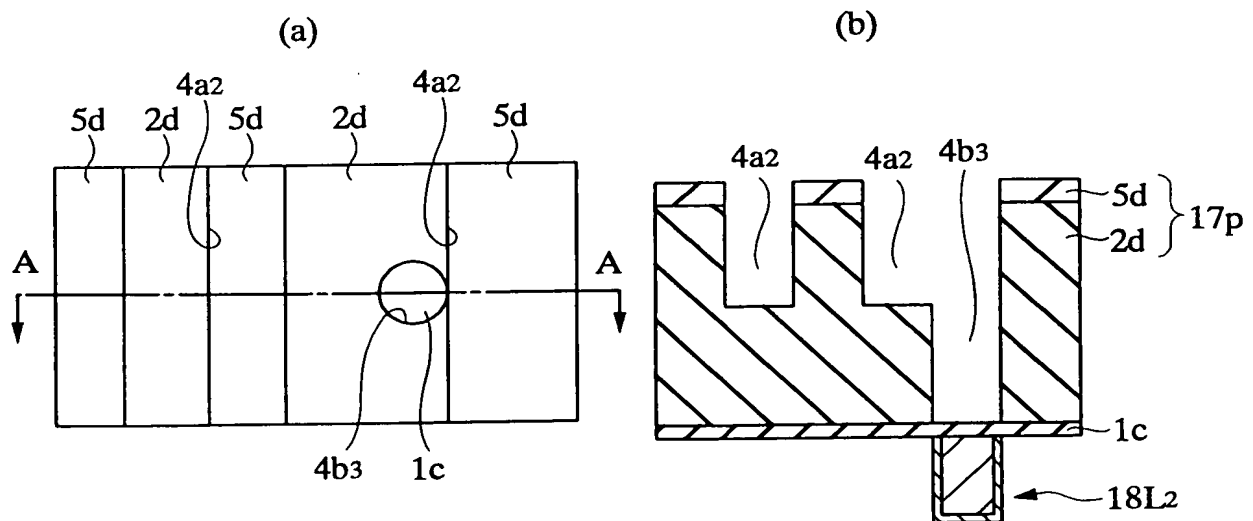
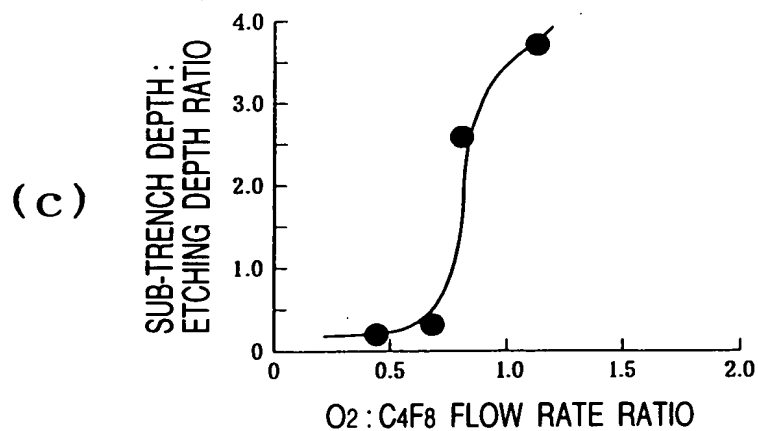
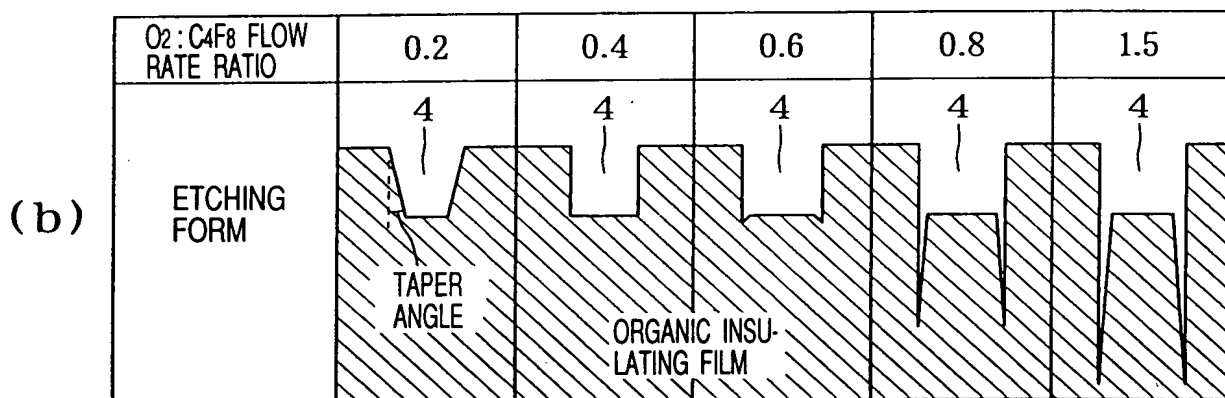
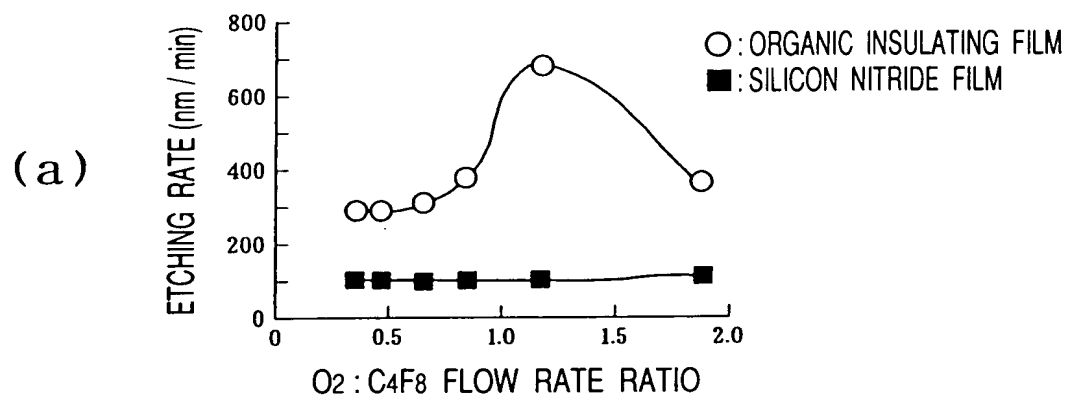


FIG. 90



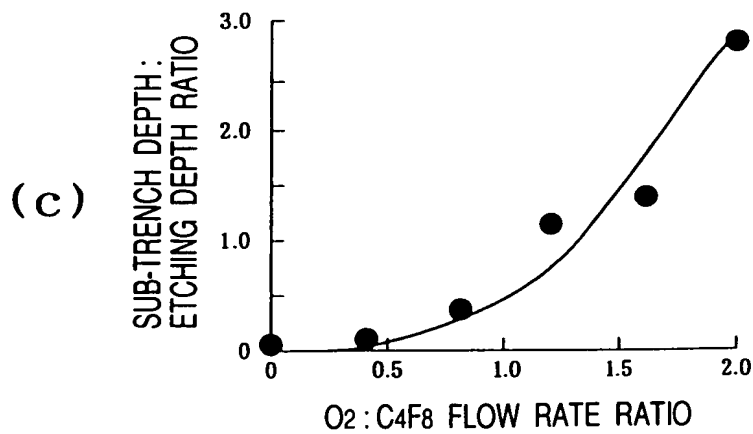
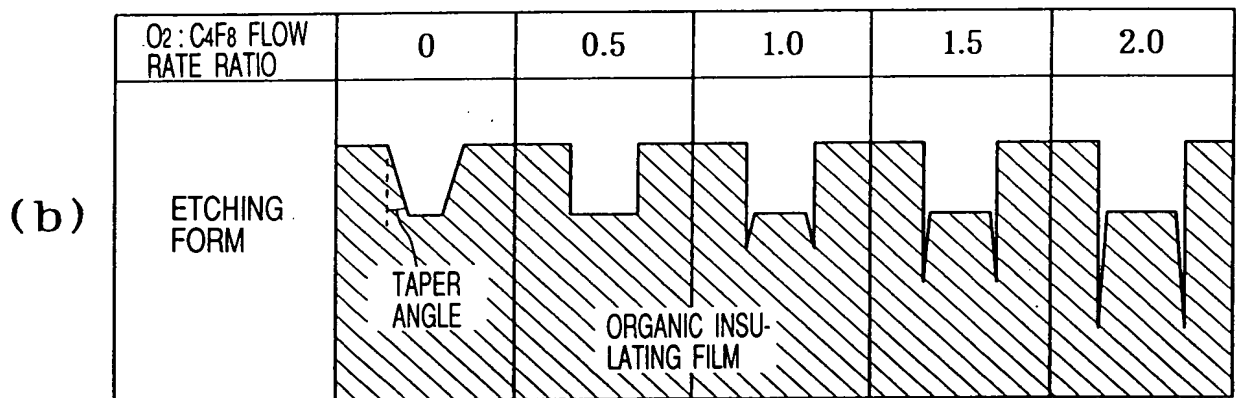
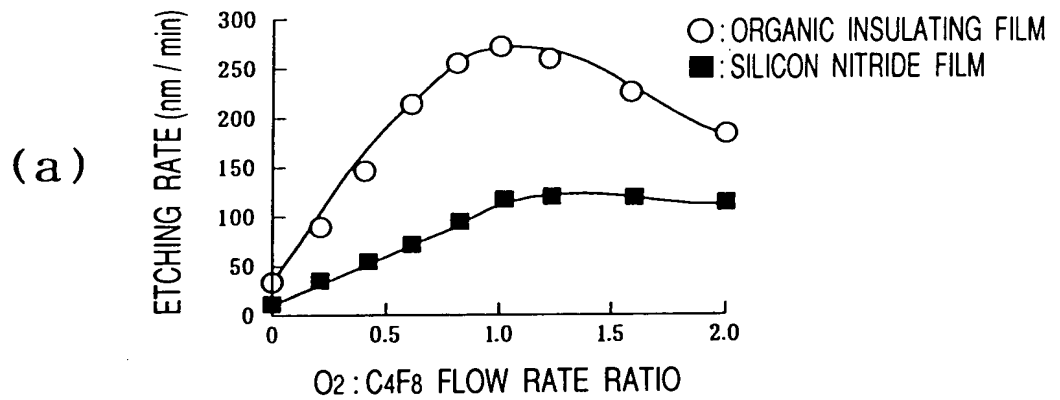
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FIG. 91

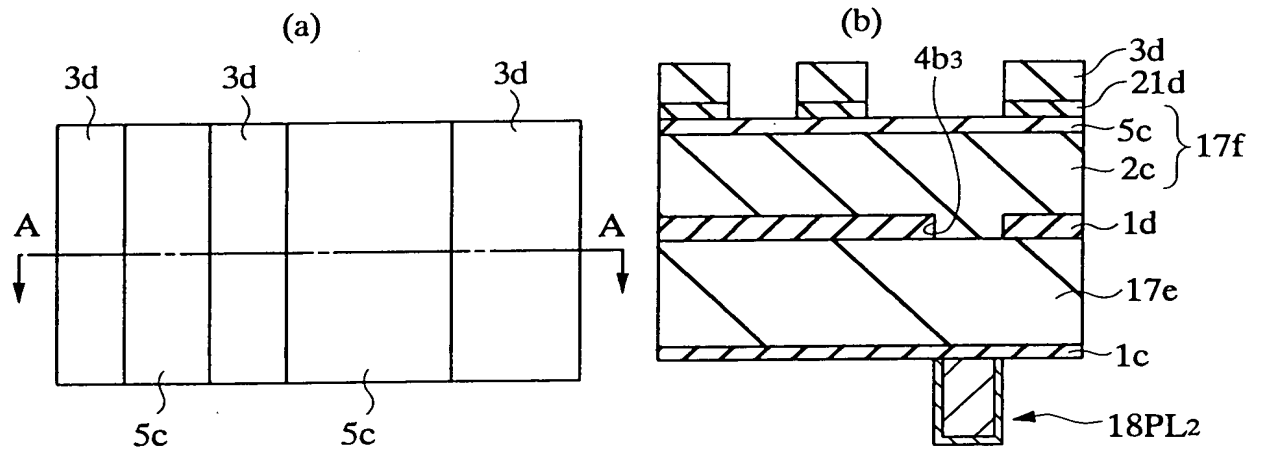


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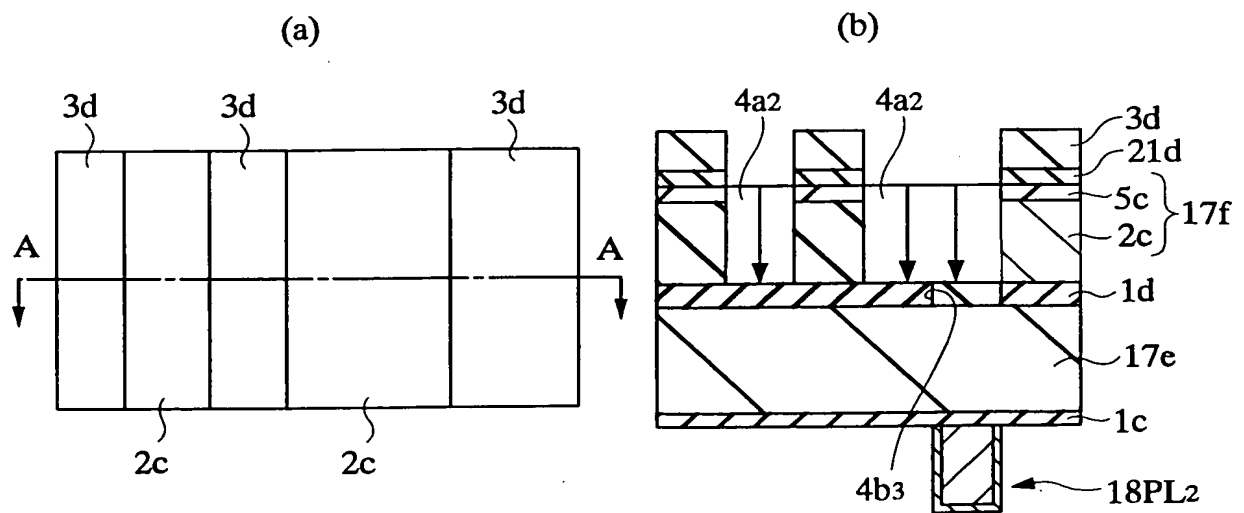
FIG. 92



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**FIG. 94**



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FIG. 95

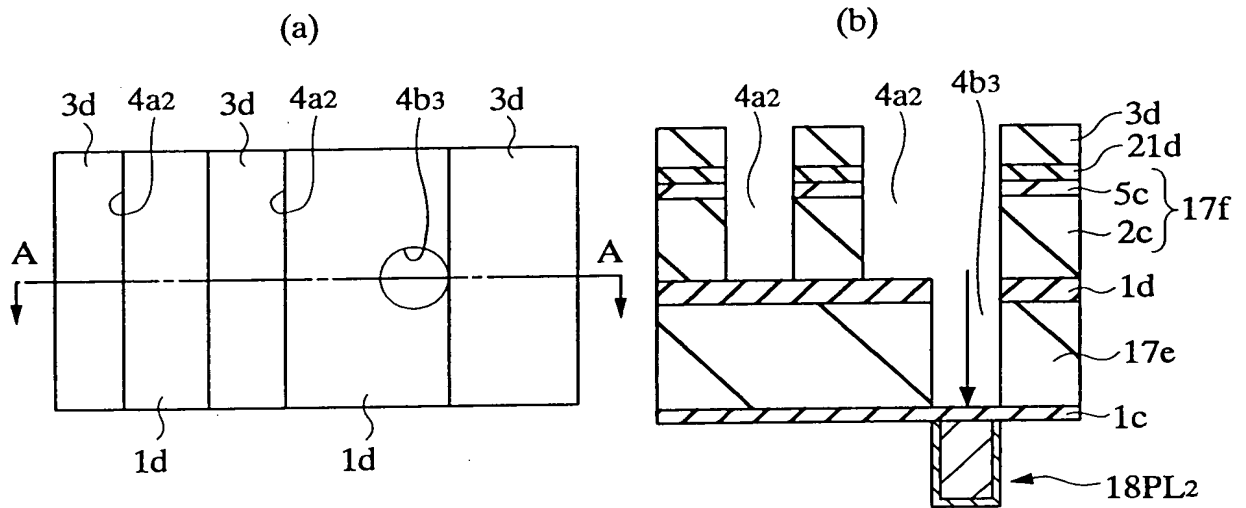


FIG. 96

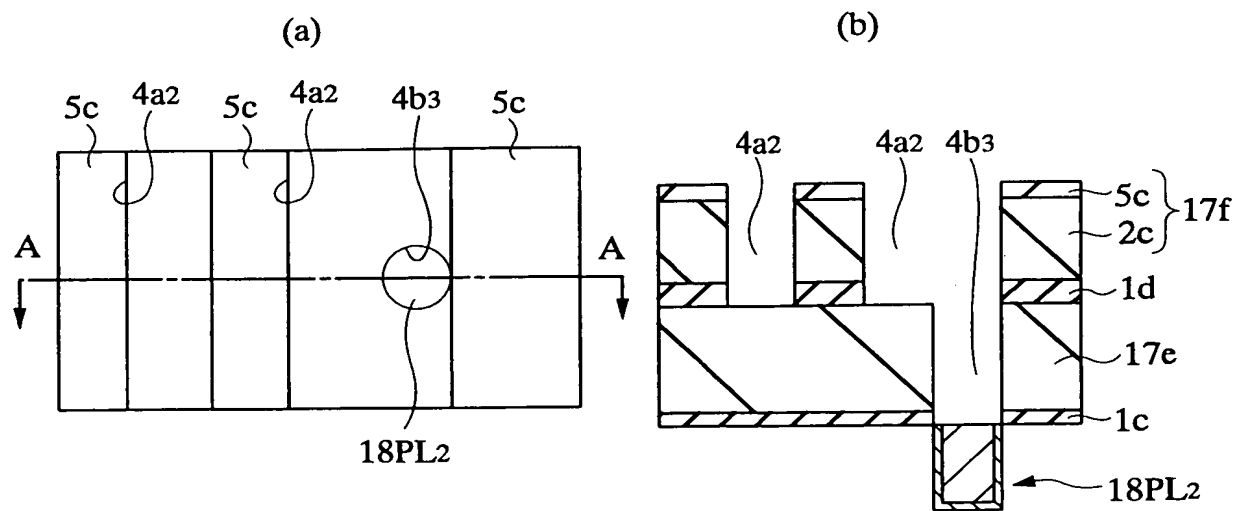
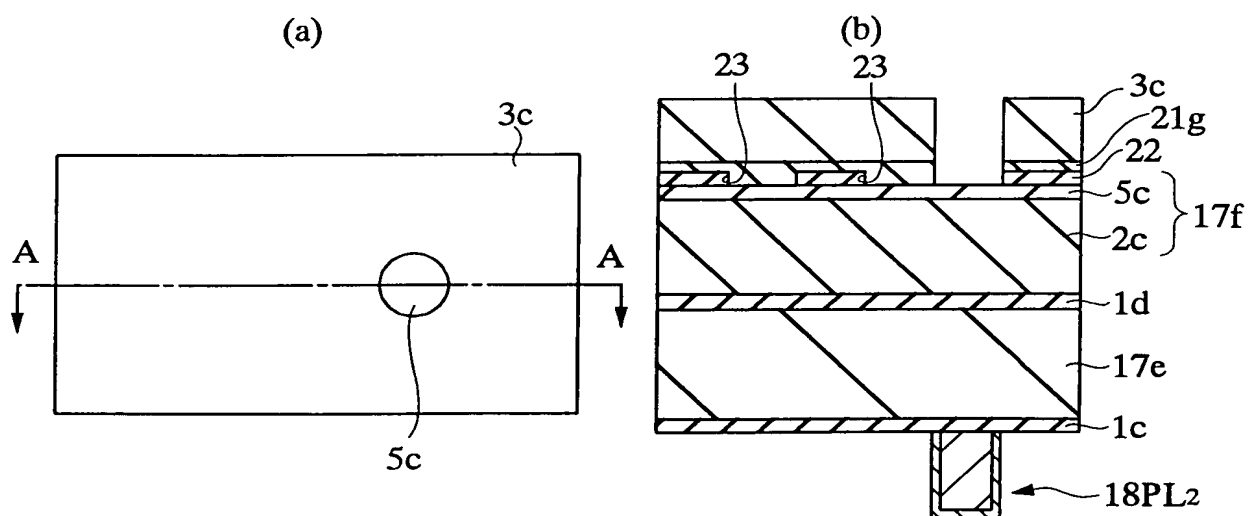


FIG. 97



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FIG. 98

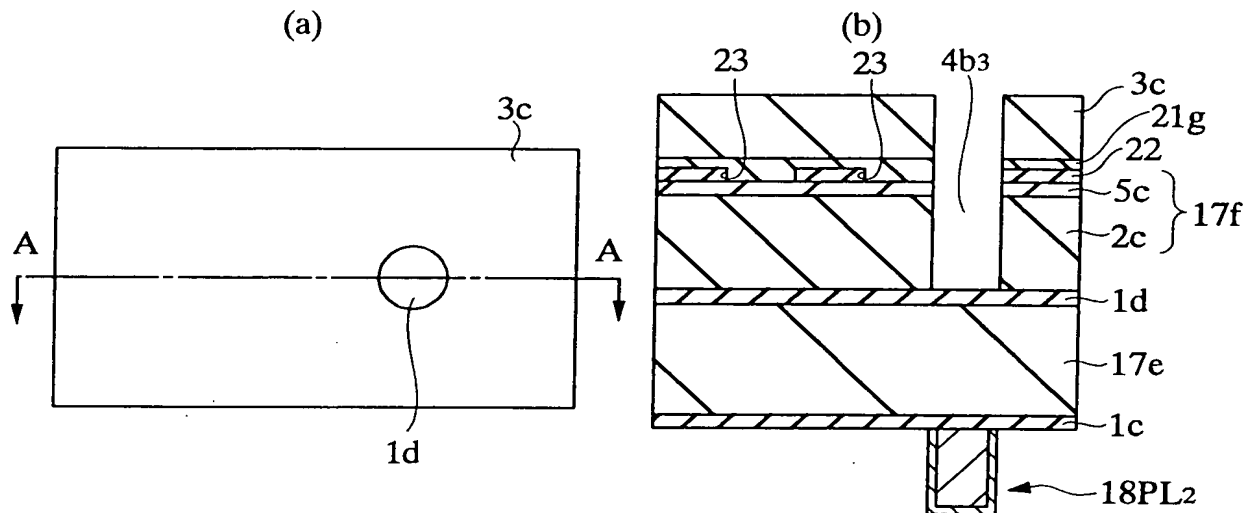
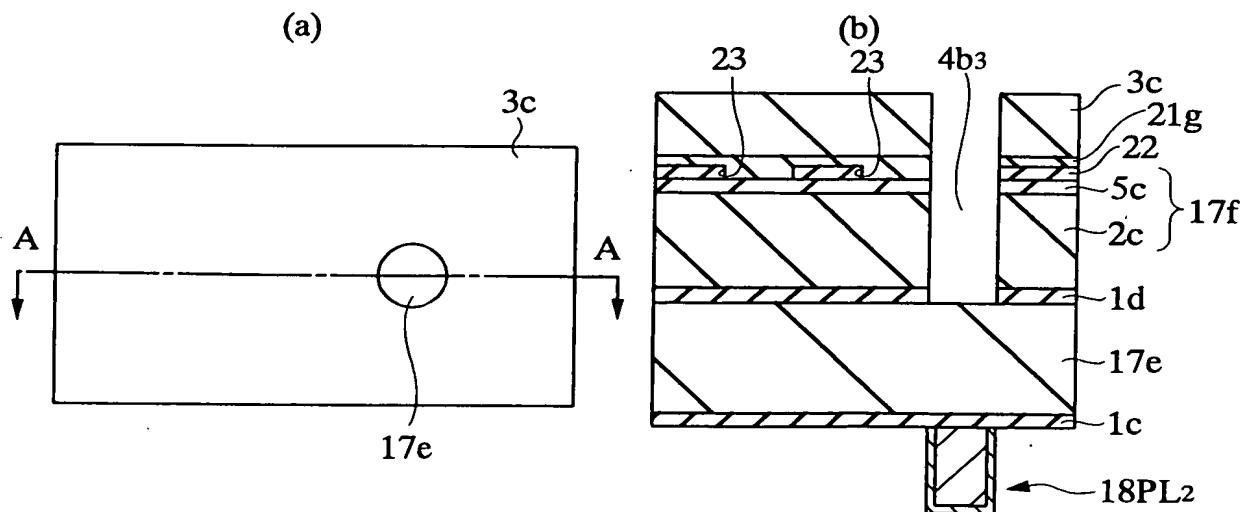


FIG. 99



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FIG. 100

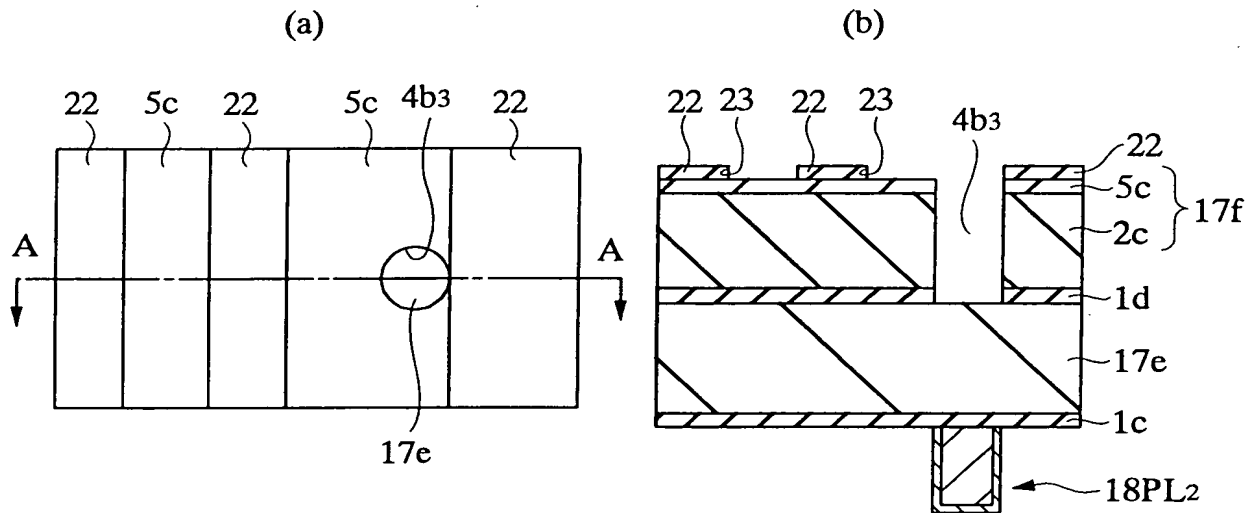
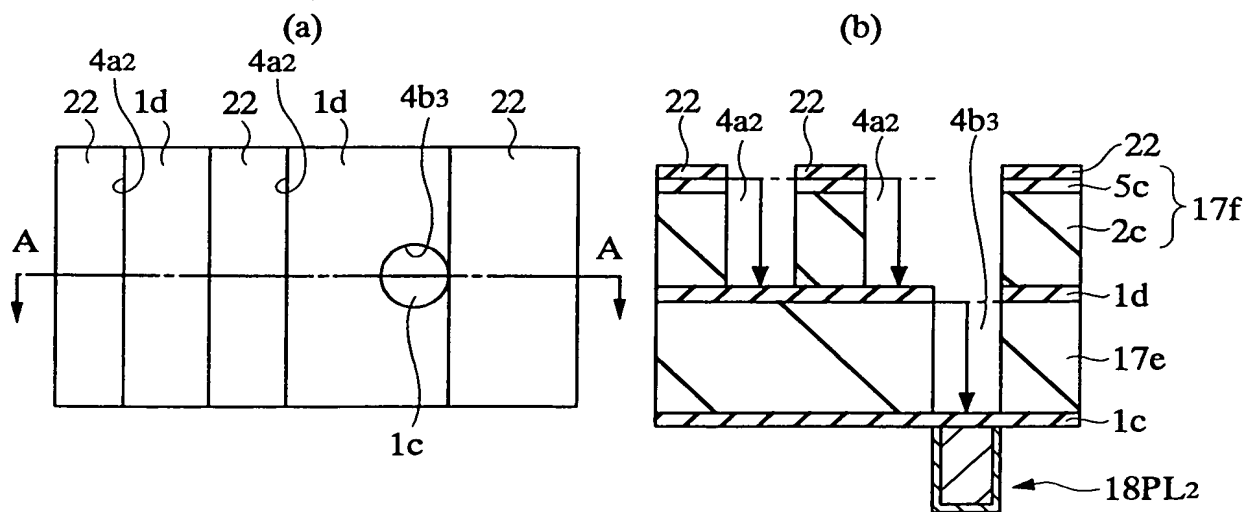
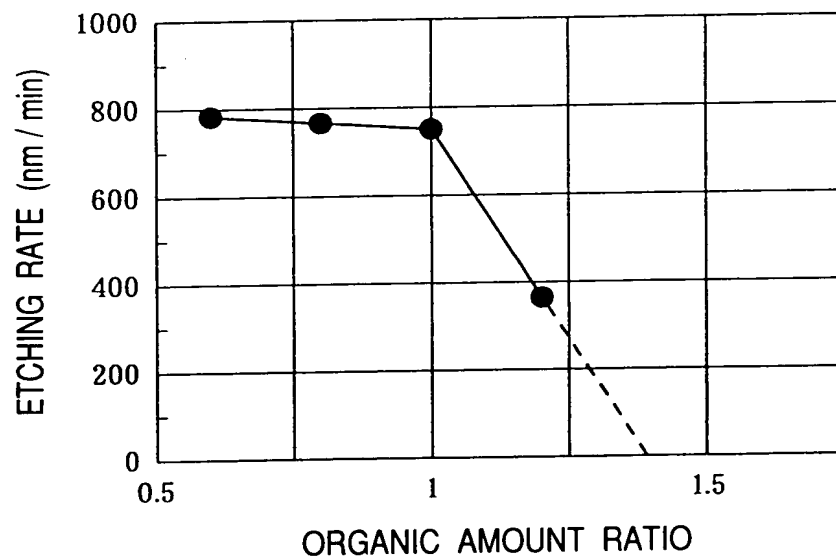


FIG. 101



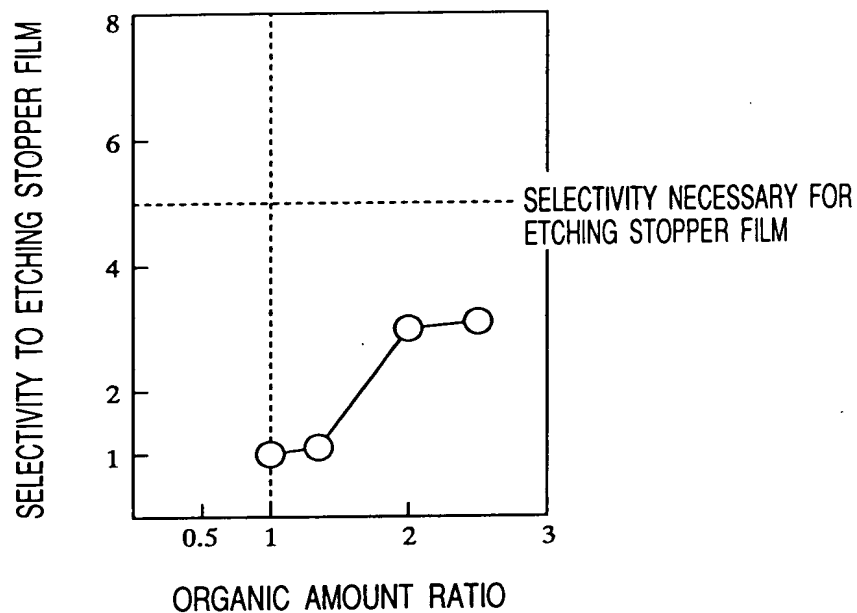
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*FIG. 102*

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FIG. 103

(a)



(b)

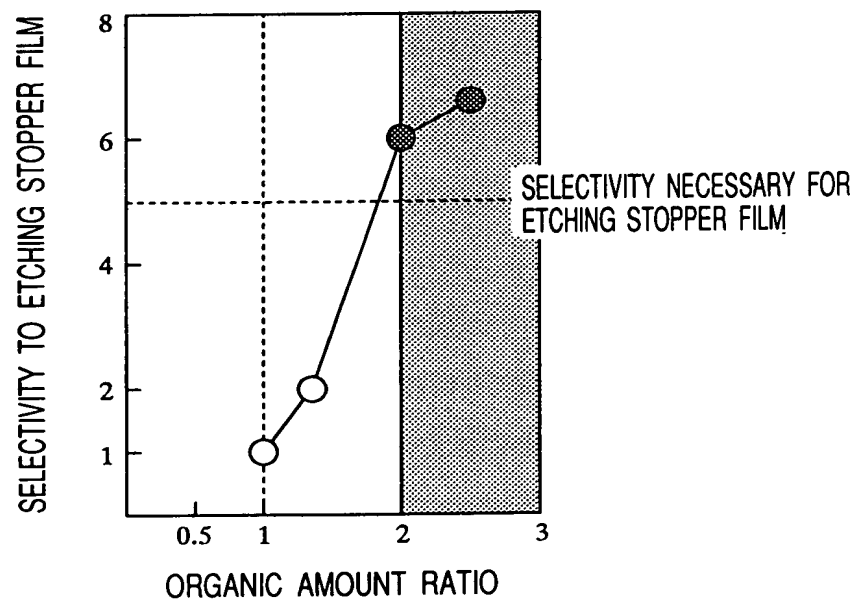
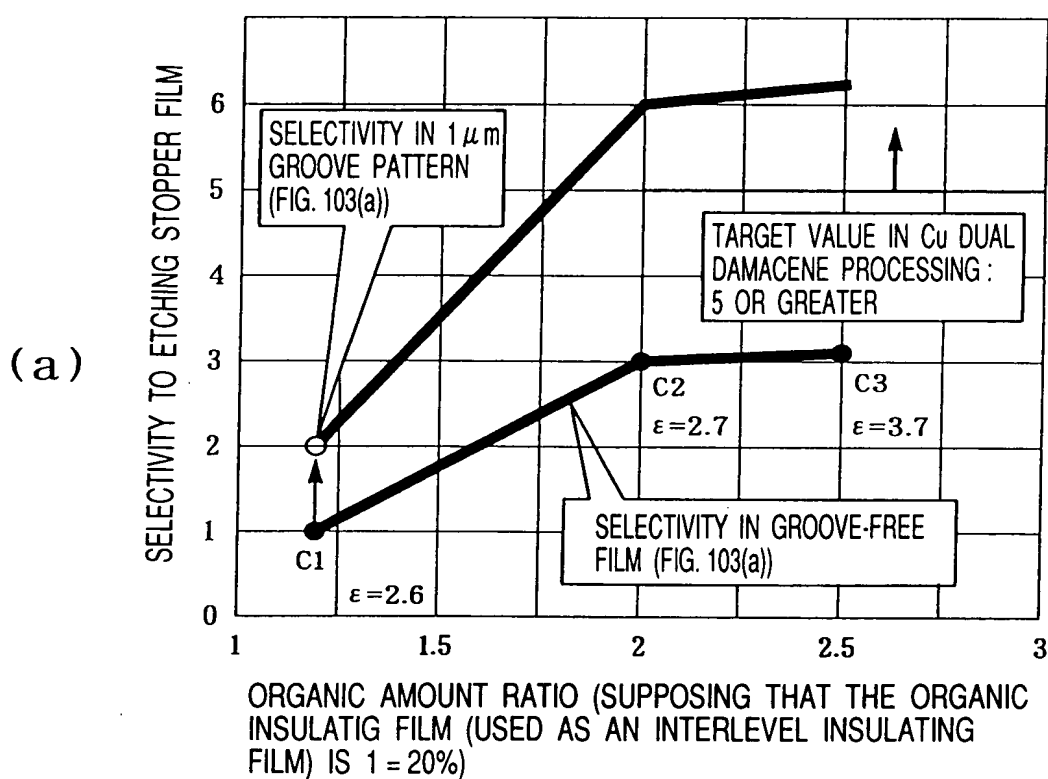
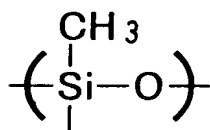


FIG. 104

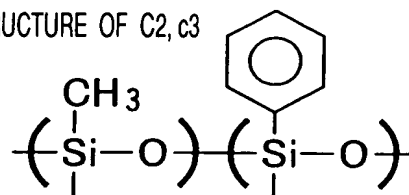


(b)

STRUCTURE OF C1

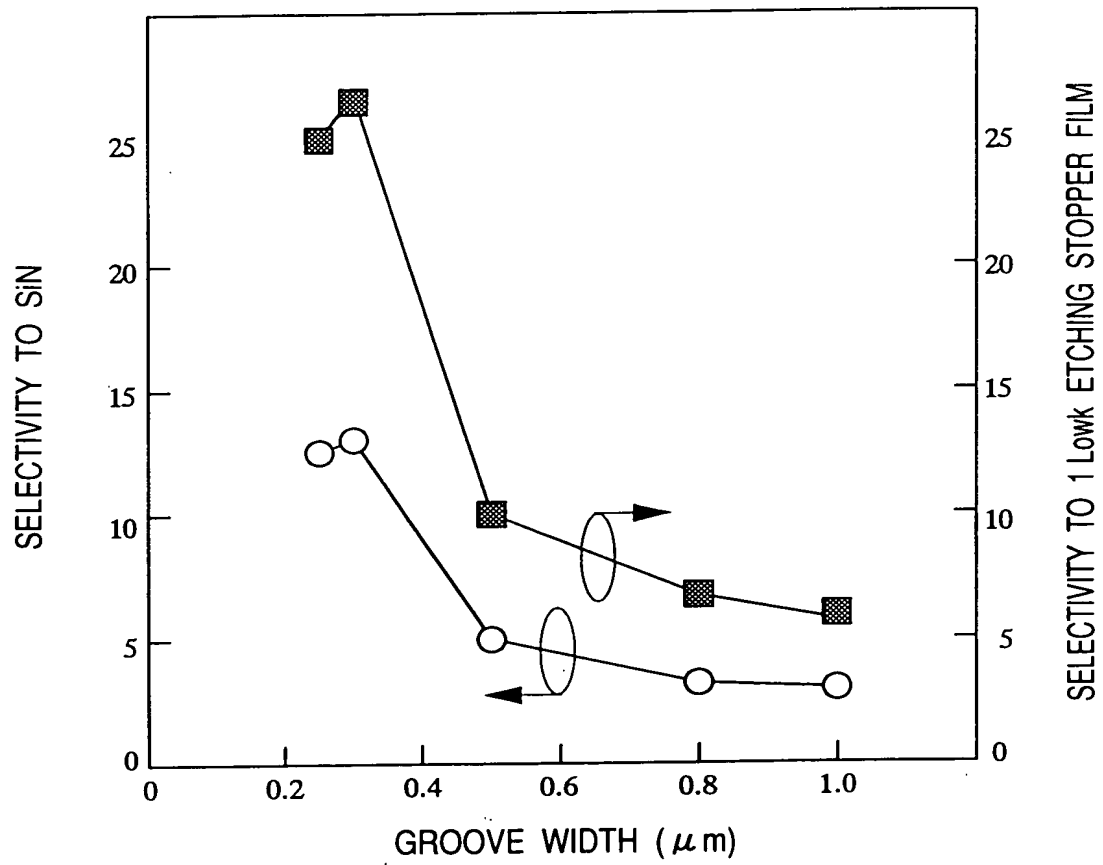


STRUCTURE OF C2, C3



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FIG. 105



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FIG. 106

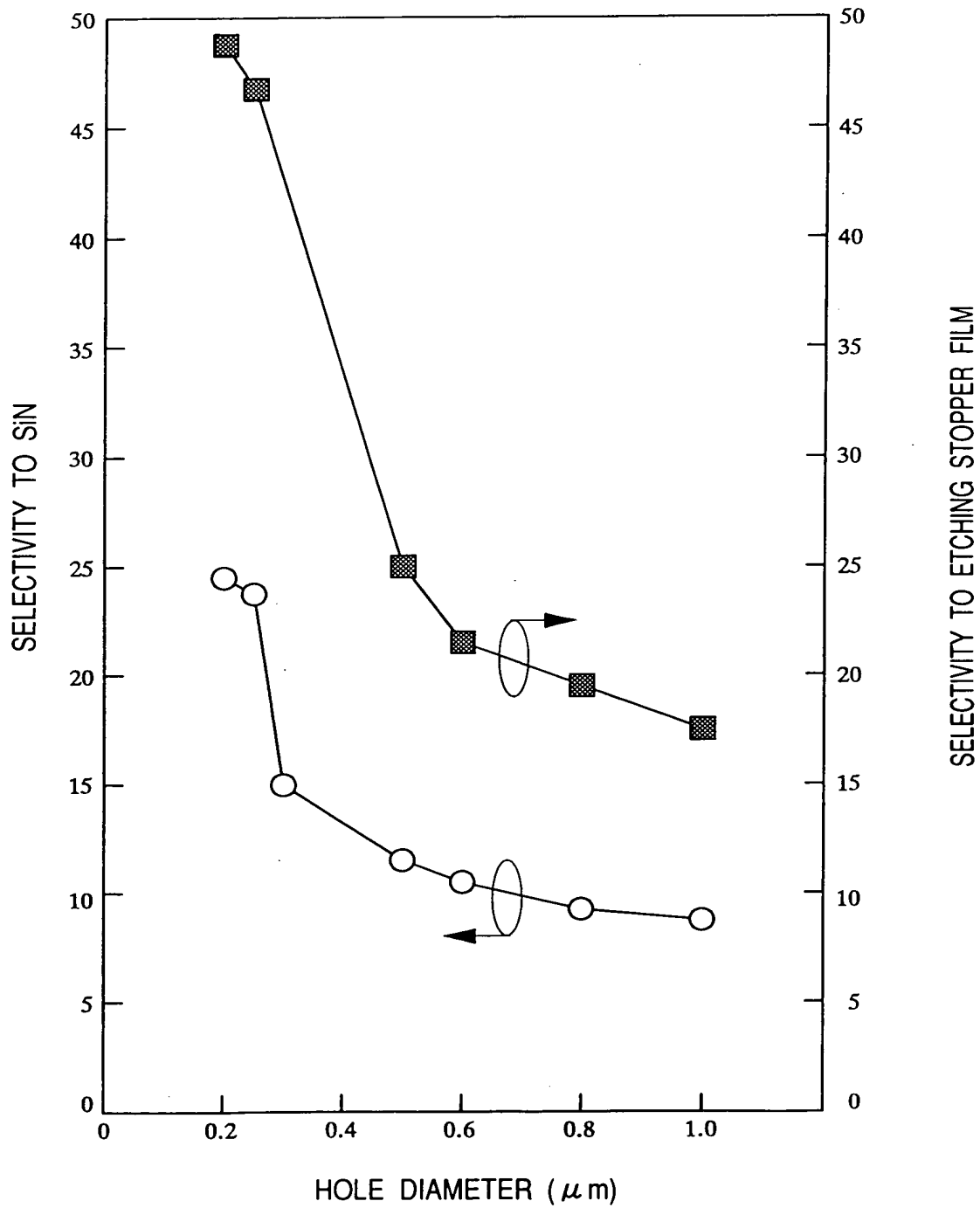
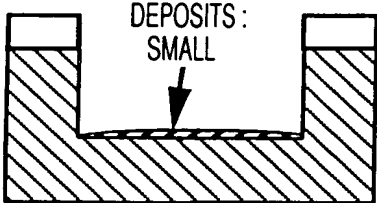
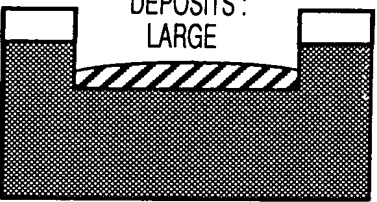


FIG. 107

	ADHESION	SELECTIVITY (TO ORGANIC SOG)	Cu DIFFUSION- PREVENTIVE LEAK PROPERTY	DIELECTRIC CONSTANT
SiN	○	5~10	○	7.0
PTEOS	○	2~3	×	4.2
Blok	△	5~10	△	5.0
NOVEL ETCHING STOPPER FILM	○	5~10	△	2.5~4.0

FIG. 108

(a)

ORGANIC AMOUNT	CF CONSUMPTION RATE*	AMOUNT OF CF DEPOSITS	ETCHING RATE
SMALL (LARGE SiO CONTENT)	HIGH	 DEPOSITS: SMALL	HIGH
LARGE (SMALL SiO CONTENT)	LOW	 DEPOSITS: LARGE	LOW

(b)

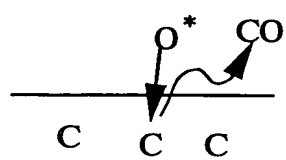
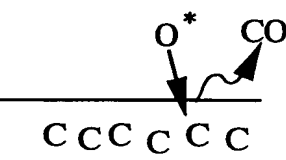
 C C C SMALL ORGANIC AMOUNT	HIGH ETCHING RATE
 C C C C C C LARGE ORGANIC AMOUNT	LOW ETCHING RATE

FIG. 109

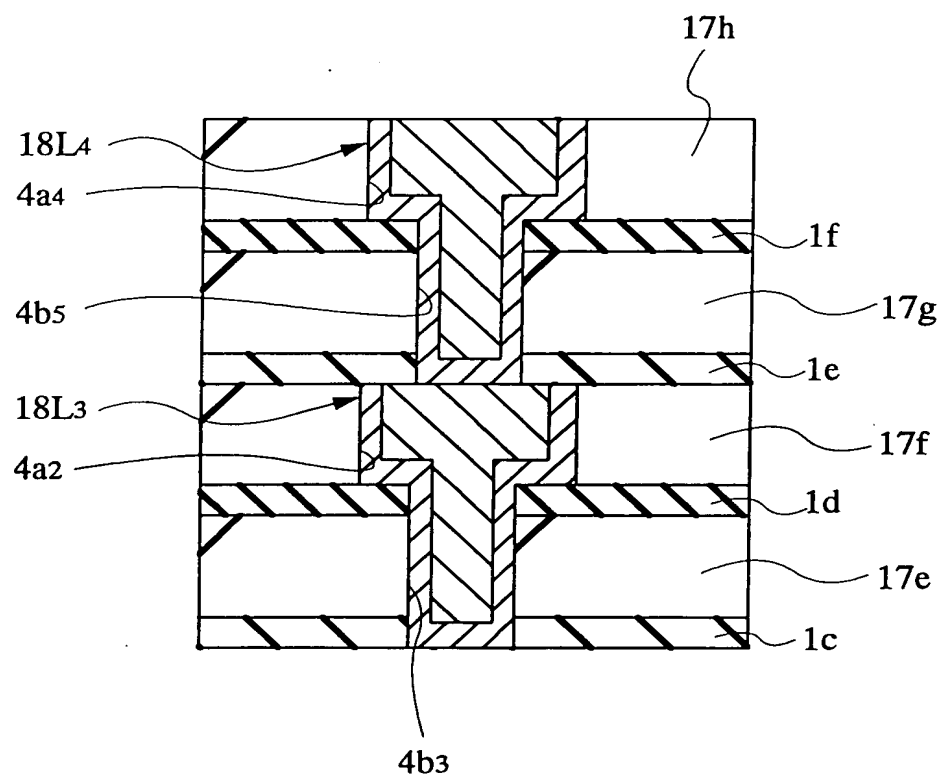


FIG. 110

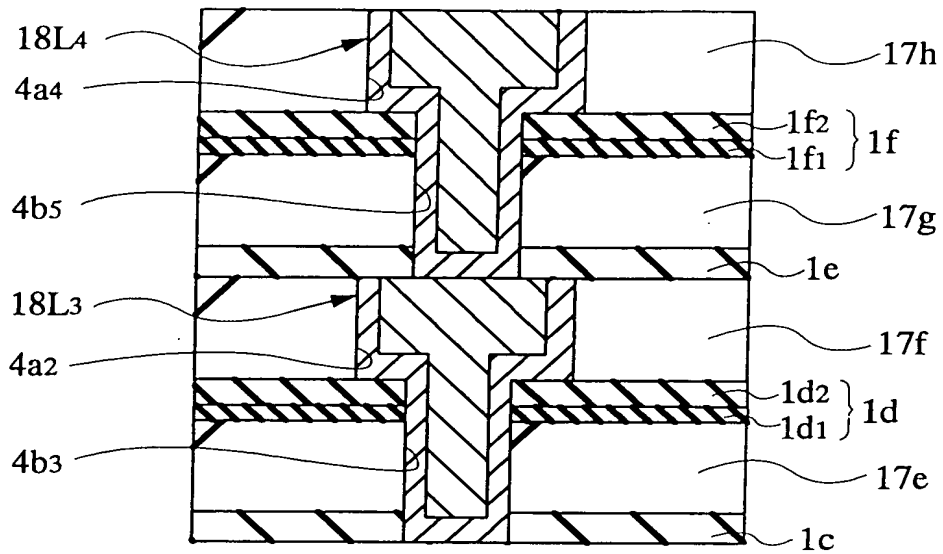
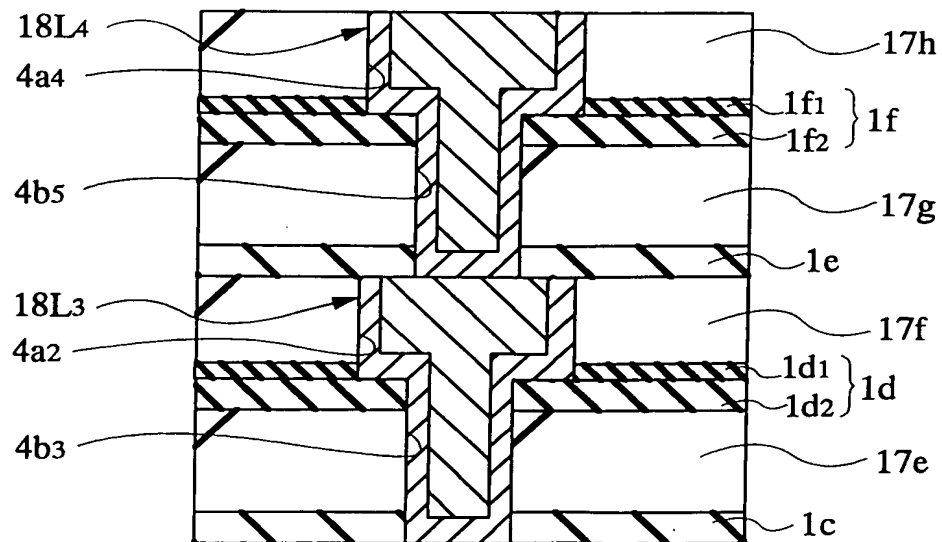


FIG. 111



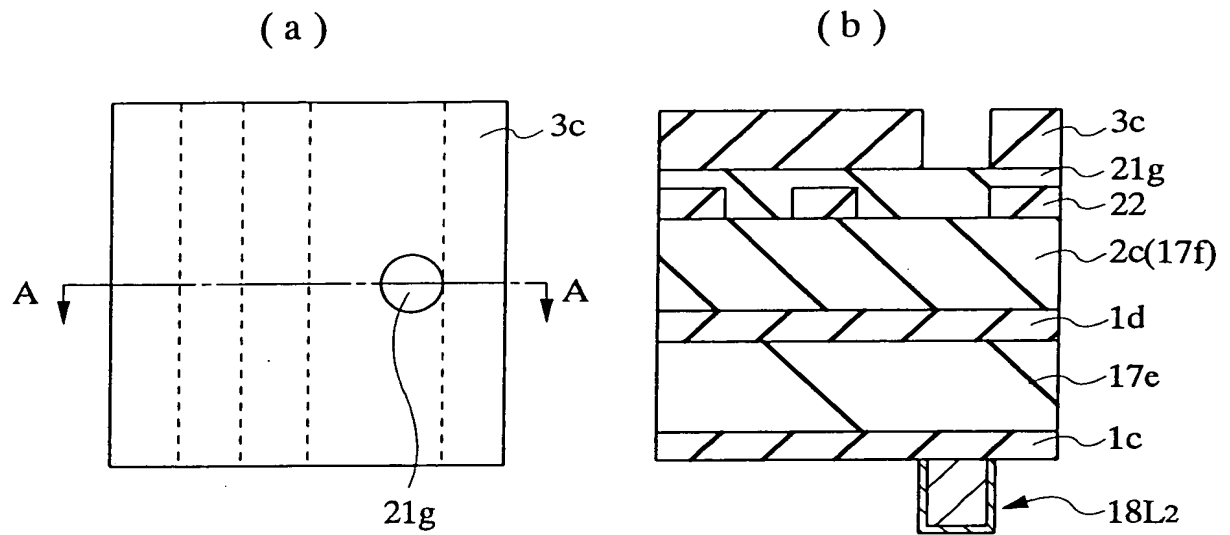
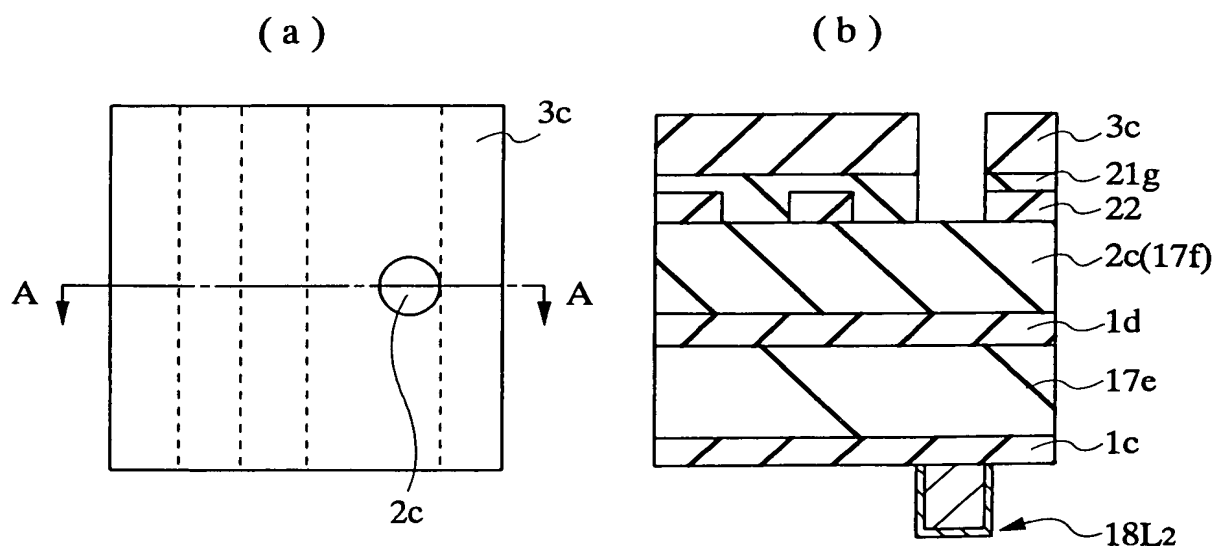
**FIG. 112****FIG. 113**

FIG. 114

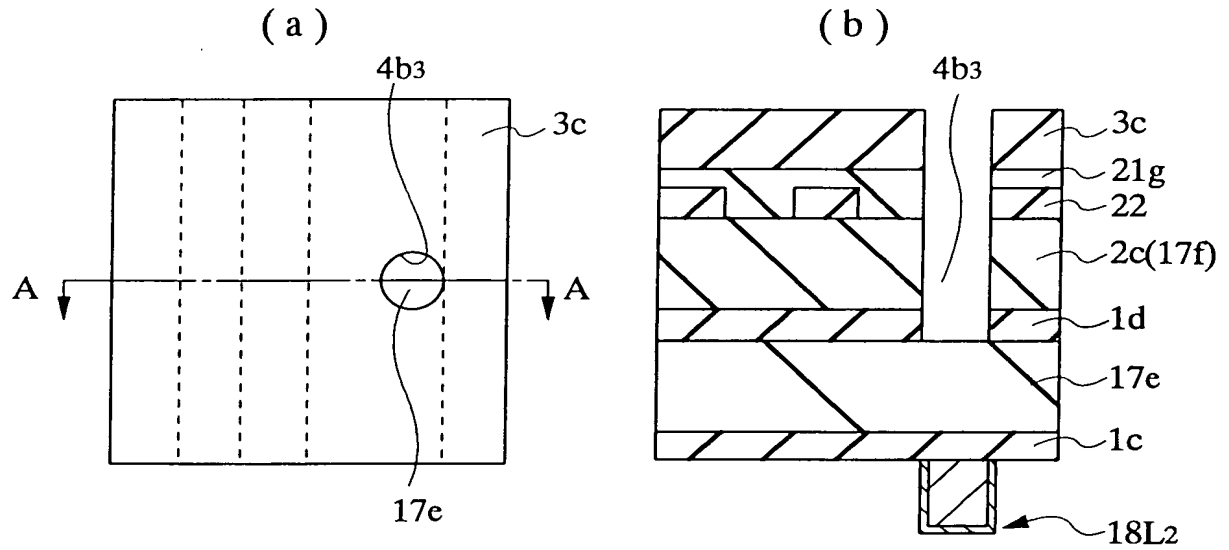


FIG. 115

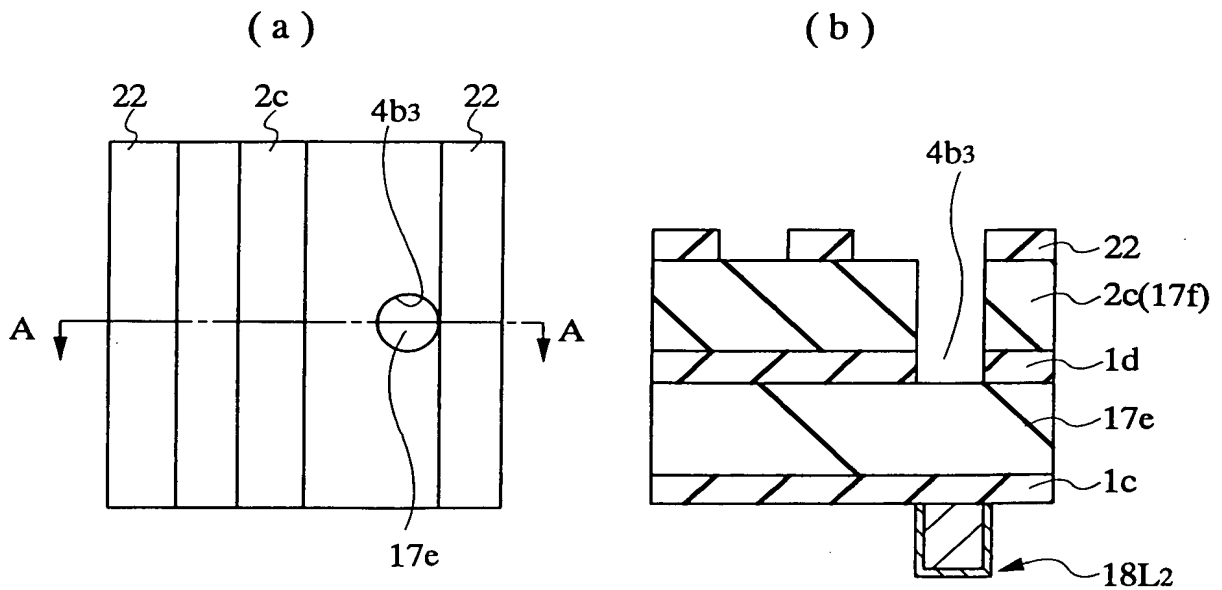


FIG. 116

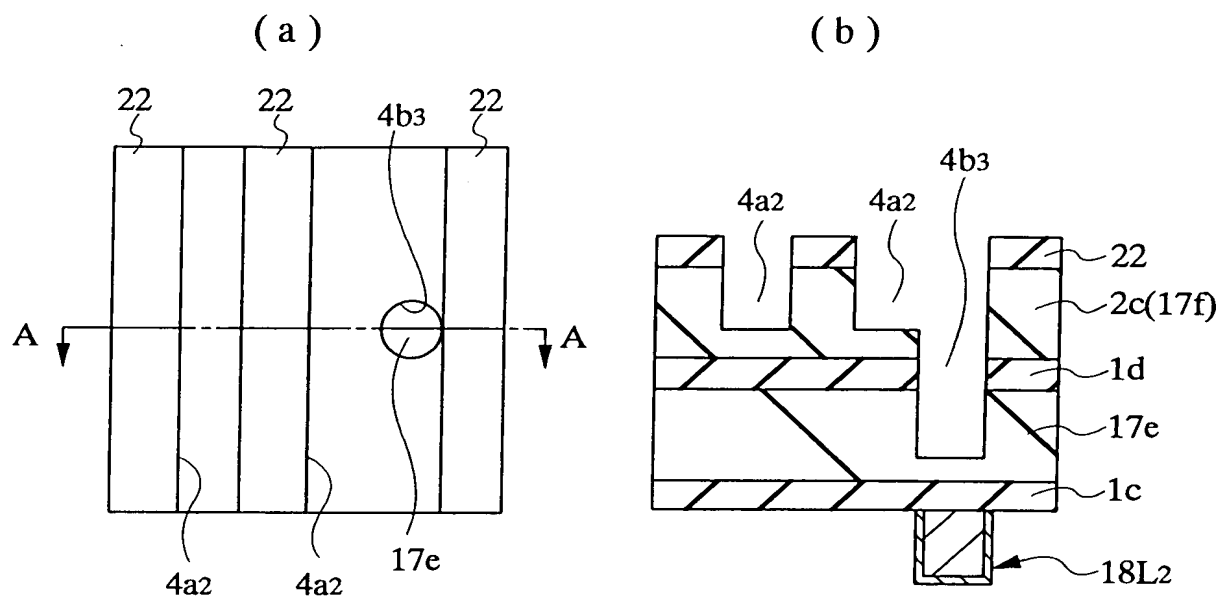


FIG. 117

